

The Pennsylvania State University

The Graduate School

Department of Sociology

**AN EVENT HISTORY ANALYSIS OF PREMARITAL COHABITATION  
TRANSITIONS AND DIVERGENT RELATIONSHIP PATHWAYS**

A Dissertation in

Sociology and Demography

by

Brett A. Beattie

Submitted in Partial Fulfillment  
of the Requirements  
for the Degree of

Doctor of Philosophy

December 2015

The dissertation of Brett A. Beattie was reviewed and approved\* by the following:

Paul R. Amato  
Arnold and Bette Hoffman Emeritus Professor of Family Sociology and  
Demography  
Dissertation Advisor  
Chair of Committee

David R. Johnson  
Professor of Sociology, Demography and Human Development and Family  
Studies

Valarie King  
Professor of Sociology, Demography and Human Development and Family  
Studies

David J. Eggebeen  
Associate Professor of Human Development and Sociology

John Iceland  
Professor of Sociology and Demography  
Head of the Department of Sociology

\*Signatures are on file in the Graduate School

## ABSTRACT

Cohabitation has become one of the most widely studied, and hotly debated, intimate relationship forms. Little consensus exists on what function cohabitation serves for young adults and what motivates (or inhibits) a transition to marriage from cohabitation. There exists a cohabitation paradox in which recent cohorts are showing higher rates of cohabitation, and higher rates of dissolution from cohabitation, which combine to produce higher rates of serial cohabitation; yet support for marriage remains extremely high and remains the desired relationship form. This dissertation explores this paradox by using the concept of a relationship pathway. By using data from multiple relationships and multiple partners, I am able to map out a complete premarital cohabitation history for a nationally representative sample of American young adults.

By leveraging these multiple relationships, I am able to examine three key aspects of a young adult's relationship path. First I include partner information to examine the interplay between respondent variables and partner information and test dyadic theories of relationship cohesion and related gender roles. Second, I construct a frailty variable to parse out an individual's unique hazard for each relationship outcome and quantify how much influence an individual's enduring traits impact transition likelihood. Third, I conduct a latent class analysis to uncover relationship pathways within the data.

I find that adding partner variables did not significantly add to a model's predictive power, suggesting that there was a high level of homogeneity between a respondent and their partner. However, the frailty variable stayed stable throughout various model specifications, suggesting that a respondent's unique unobserved traits are uncorrelated with the observed variables in this study. This monograph discovered 5 distinct cohabitation pathways that young adults take on their way to marriage and find that cohabitation serves very different purposes

among these groups. However, there are strong similarities in the transition hazards between classes, suggesting a common underlying process.

I find strong evidence that cohabitation experiences are driven by a person's enduring traits and find strong selection effects into individual cohabitation pathways. I also find support for marital search theory, with longer partner searches and an improving partner pool both associated with higher chances of marriage. I also present evidence that a respondent's circumstances at the start of a relationship has a large impact on the hazards of transitions. I conclude by encouraging research into relationship pathways, rather than discrete relationship events.

## TABLE OF CONTENTS

List of Figures .....	vi
List of Tables .....	vii
Acknowledgements.....	viii
Chapter 1 Introduction .....	1
Chapter 2 Background and Theory .....	4
Enduring traits .....	4
Dyadic Processes.....	6
Marital Search Theory.....	11
Institutional Effects .....	16
Current Study .....	18
Plan of analysis .....	20
Chapter 3 Data and Methods.....	22
Data .....	22
Variables .....	23
Methods.....	26
Accelerated Failure-Time.....	26
Latent Class .....	30
Missing Data .....	31
Chapter 4 Results .....	33
Event History .....	40
Latent Class.....	45
By Class Event History .....	50
Chapter 5 Discussion .....	54
Chapter 6 Conclusion.....	63
References.....	66
Appendix Supplemental Analysis.....	72
Transitions.....	72
Event History Analysis.....	76
Latent Class Analysis .....	89
Event History Analysis By Class .....	101

**LIST OF FIGURES**

Figure 4-1: Rate of transitions by month for first,second and third cohabitations.....	39
Figure 4-2a: Hazard of Marriage over time by Race .....	42
Figure 4-2b: Hazard of Dissolution Over Time by Race.....	42
Figure 4-3a: Hazard of Marriage over Time by Class .....	50
Figure 4-3b: Hazard of Dissolution Over Time by Class .....	50

## LIST OF TABLES

Table 4-1a: Descriptive Statistics – Categorical Variables – Time Invariant .....	33
Table 4-1b: Descriptive Statistics – Categorical Variables – Time Varying .....	35
Table 4-1c: Descriptive Statistics – Continuous Variables .....	37
Table 4-2: Rate of Transitions by Month for First Cohabitation.....	38
Table 4-3: Parametric Regression with Frailty .....	40
Table 4-4: Parametric Event History Analysis for Full Sample – Respondent Variables (reduced format) .....	41
Table 4-5: Indicators of fit for LCA .....	45
Table 4-6: Item Response Probability for a Five Latent Class Model .....	46
Table 4-7: Cohabitation Outcomes by Class .....	47
Table A-1: Rate of Transitions by Month for Second Cohabitation .....	72
Table A-2: Rate of Transitions by Month for Third Cohabitation .....	73
Table A-3: Median and Mean Relationship Length by Relationship Order .....	74
Table A-4: Parametric Event History Analysis for Full Sample – Respondent Variables .....	76
Table A-5: Parametric Event History Analysis for Full Sample – Respondent and Partner Variables by Gender .....	79
Table A-6: Parametric Event History Analysis for Full Sample – Respondent and Partner Variables Relative to Each Other.....	82
Table A-7: Predictors of Latent Class Membership .....	89
Table A-8: Socioeconomic Variables at the Start and End of Respondent’s Relationship History.....	90
Table A-9: Parametric Event History Analysis for Respondent Variables by Class .....	101
Table A-10: Parametric Event History Analysis for Respondent and Partner Variables by Gender by Class .....	102
Table A-11: Parametric Event History Analysis for Respondent and Partner Variables Relative to each other by Class .....	104

## ACKNOWLEDGEMENTS

I would like to thank all the people who have supported me throughout my graduate studies and especially the last few years. The academic and personal support has been invaluable throughout the process.

In particular, I would like to thank Paul Amato for his invaluable advice and mentorship while serving as my dissertation chair and throughout my graduate career. Your patience, advice and expertise are irreplaceable and this would not have been possible without your help. Thank you.

I would like to thank all of my committee for their thoughtful and insightful comments as my work progressed and the end product was vastly superior to anything I could have produced on my own. In particular, I would like to thank David Johnson for his first year statistics classes that inspired my interest in quantitative methods and his guidance as I developed my statistical skills.

I would also like to thank my mentor Duane Alwin for his encouragement and support throughout my career. I would especially like to thank you for including me in your projects and for always giving my ideas and opinions a fair, but critical, hearing, no matter how unorthodox.

Special thanks to my fellow graduate students at Penn State who were always happy to help with work, but more importantly, extremely happy to help forget about work. My fellow students made the journey extremely enjoyable and I could not wish for a better group of friends and colleagues.

However, my biggest thanks go to my wife April for her wholehearted support and love throughout this process. I am extremely lucky to have her by my side and she has my unconditional gratitude. I would also like to thank my family for their encouragement, belief and good humor.



# **Chapter 1**

## **Introduction**

Cohabitation occupies a unique space in American society. The incidence of cohabitation has been steadily rising over the past 30 years to the point where a majority of young Americans will experience a cohabitation (Smock 2000). While spells of cohabitation have become normative, Cherlin (2004) has persuasively argued that the institution of cohabitation itself lacks societal norms and the legal protections afforded to marriage. While this may be a benefit to some cohabitators, such as those avoiding or disenchanted with the institution of marriage, large numbers of young Americans (Martin et al. 2003) and even cohabitators (Brown 2000) express positive views towards marriage. While it is true that some cohabitations will transition into marriage, the majority will not (Schoen, Landale and Daniels 2007). Therefore we need to offer explanations as to why so many cohabitations end in dissolution as opposed to marriage or the continuation of a marriage-like cohabitation.

In order to fully explore what factors influence transitions from cohabitation, we have to deal with several confounding factors. The first confounding factor is that cohabitation is not a discrete event; rather it is part of a longer relationship formation trajectory. While numerous other studies have looked at transitions from cohabitation (Brown 2000, Brown, Snyder and Condo 2006, Guzzo 2009, Manning 2004), they have all treated cohabitation as a standalone instance (often due to data limitations). As we know the rate of multiple cohabitations is increasing (Lichter, Turner and Sassler 2010) and that approximately 90% of Americans will marry (Cherlin 2009) it is clear that Americans continue trying to form marriages after a cohabitation has ended. Therefore, the first goal of this dissertation is to construct a cohabitation history that includes all

cohabitations that occur before a person's first marriage. By using multiple relationship information we can contrast and compare enduring personal traits versus time varying and relationship specific factors and their influence on cohabitation transitions. It will also allow the introduction of partner information to inform our models.

Another confounding factor is the numerous forms cohabitation may take. Cohabitors may cohabit while engaged or with definite plans to marry (Guzzo 2009), they may be raising children (Musick 2007), or cohabitation may have just 'happened' (Sassler 2004). As people may experience varying forms of cohabitation it is unlikely that each form of cohabitation will have similar transition patterns. By trying to isolate distinct types of cohabitation experiences, the amount of error in the model is reduced and results in a more informative model. While various studies have addressed this by focusing on select subgroups of cohabitators (for example: cohabitators with children (Carlson, McLanahan and England 2004) or older versus younger cohabitators (King and Scott 2005)), there has yet to be a thorough exploration of the various cohabitation pathways a young adult may take. The second goal of this dissertation is to address this gap. To do this, latent classes will be constructed based upon the number of cohabitations a person experiences, length of cohabitations, fertility events and age at first cohabitation. It will be argued that these variables will provide a good basis for discriminating 'types' of cohabitation. The third goal of this dissertation is to explore how transitions happen within these latent classes. The results of these models will be much more informative than the overall average effect obtained from the full sample.

The interest in rising rate of cohabitation and transition into marriage or dissolution is not purely academic. It has been found that those who have experienced a cohabitation have higher divorce rates (Kamp Dush, Cohan and Amato 2003) and lower marital quality (Brown 2004, James and Beattie 2012). However, some studies suggest that it is the experience of different partners that drive these negative effects, when a women only cohabits with her eventual

husband, these effects are lessened (Teachman 2003). Thus, the transition of the first cohabitation may be especially influential. Negative effects of cohabitation dissolution can include loss of financial resources (Avellar and Smock 2005), psychological stress (Tavares and Aassave 2013) and family disruption (Raley and Wildsmith 2004).

To explore cohabitation transitions of young adults I shall be drawing data from the National Longitudinal Survey of Youth 1997 (NLSY97). Cohabitation histories from ages 12-18 through to 27-33 were constructed and includes all premarital relationships from less than one month to over 15 years in length. A unique feature of this dataset is that it includes information about the cohabitation partner, allowing information about the varying dynamics between the partner and the respondent. This information has been converted into a person month file which allows the precise measurement of relationship transitions and independent variables such as fertility events, education indicators and work history.

## **Chapter 2**

### **Background and Theory**

Studies of cohabitation as a relationship form arose during the 1970's as social scientists began to study alternative lifestyles (Clayton and Voss 1977). A rich theoretical literature has arisen in an attempt to explain why rates of cohabitation are rising, who is more likely to experience cohabitation, and why some people transition to marriage while others dissolve their cohabitations. For the purposes of this dissertation, I will highlight three separate (though interrelated) groups of theories. The first theories that will be discussed will be grouped under Enduring Traits. Enduring traits are the stable beliefs, skills and personality that each person enters a relationship with. It is assumed that these traits manifest themselves before a person forms a relationship and remain stable throughout a relationship. The second group of theories are dyadic theories; these focus upon the interplay between a respondent's traits and their partner's. This encompasses a wide range of theories such as exchange theory, marital search theory, and theories that focus on gender specialization. These theories focus upon the processes of building relationships and thus are dynamic. The third group of theories are structural theories that focus upon the large societal forces that can impede or hasten relationship formations and transitions. These theories pay greater attention to race, income and education; particularly any stratification that occurs on these variables.

#### **Enduring traits**

When researchers first started examining cohabitation as an emerging phenomena, it was quickly posited that those who cohabited were different than those who did not. As cohabitation started as an unconventional relationship form, it was logical to posit that those who cohabited

would be unconventional themselves (Axinn and Thornton 1992). It was popularly theorized that cohabitation gave those with unconventional gender view an opportunity to form a coresidential relationships without the ideological baggage that came with marriage (Blumstein and Schwartz 1983, Giddens 1992). This gave rise to the enduring traits hypothesis: those who cohabited were different from those who married directly and it was this selection into cohabitation that was responsible for higher dissolution rates and reduced relationship quality.

A large amount of literature has been published looking at the question of selection into cohabitation. From some of the earliest quantitative studies (Axinn and Thornton 1992, DeMaris and MacDonald 1993) to studies that employ the latest in statistical techniques (James and Beattie 2012), a selection effect has been consistently found, the debate is now focused upon the magnitude of the effect and what enduring traits contribute to this effect. Although this manuscript is not concerned with selection into cohabitation per se. it is concerned with selection into different cohabitation pathways and it has been shown that there can be strong selection effects into various family formation pathways (Amato et al. 2008).

One trait that has been consistently linked to selection into cohabitation and non-traditional family formations is a person's values. Generally placed on a conservative to liberal scale, a person's values can include religion (Brines and Joyner 1999, Clarkberg 1999, Eggebeen and Dew 2009, Raley 1996), religiosity (Amato et al. 2008, Eggebeen and Dew 2009), gender views (Clarkberg 1999), sexual partners/premarital sex (Amato et al. 2008) and views towards marriage as an institution (Clarkberg 1999) with more conservative values being associated with a higher chance of marriage without cohabitation. Thus, it is plausible to posit that those with more conservative values will have different cohabitation experiences than those with more liberal views.

Another enduring trait that is often used in the literature is interpersonal skills. Unfortunately the NLSY97 does not include measures of interpersonal skills, however, it does

include several useful proxies. The first proxy variable is family of origin status; that is, did the respondent come from a single parent family, step family, two parent biological family or other. In an influential paper Amato (1996) demonstrated that the link between parent's divorce and an offspring's risk of divorce is mediated through interpersonal communication skills. This is supported by studies that show that negative relationship behaviors learned in adolescence carry through to adult romantic relationships (Conger et al. 2000). Another useful proxy of learned interpersonal skills is parent's education<sup>1</sup>. The work of Lareau (Lareau 2003) has convincingly demonstrated that parental socioeconomic status affects parenting styles and those with higher SES status were more likely to focus on cultivating a child's interpersonal skills and social competence (among many other aspects)<sup>2</sup>.

### **Dyadic Processes**

In contrast to individual theories of dissolution and marriage, dyadic process focus upon the interplay of both partner's attributes and the overall relationship dynamic. While there has been wealth of theories examining dyadic processes, the lack of high quality couple data has so far limited the testing of these theories. One of the first dyadic theories of relationships to gain wide spread attention was formulated by the economist Gary Becker (Becker 1973, Becker 1974). Becker drew upon work by Homans (1958) and Blau (1964) and proposed that marriages are based on a system of social exchange, where the longest lasting relationships are those where couples are mutually dependent on each other.

---

<sup>1</sup> Although both family of origin status and parental education have obvious structural components through the allocation of economic resources, I am focusing upon the social learning aspects as this dataset as much more direct measures of structural components.

<sup>2</sup> Regardless of the proposed theoretical mechanism, parent's education (predominately mother's) and family of origin status are widely used variables in predicting both type of union and transitions out of cohabitation. A full analysis of the varying results is beyond the scope of this dissertation.

In Becker's formulation, the strongest marriages are those with a distinct division of labor. This division of labor allows the male partner (Becker's formulation is explicitly gendered) to focus on maximizing their earning power and market capital while the female can focus explicitly on household and family duties. Rather than each partner trying to balance these two conflicting responsibilities, the exchange allows each partner to focus exclusively on one. This strength of this relationship is due to its interdependency, neither partner can leave as it would deprive them of vital capital that they only have access to through their partner's labor. This perspective is lent strength by studies that have shown that women are significantly worse off financially after a divorce (Smock 1993) and this has been extended to cohabitation (Avellar and Smock 2005).

According to exchange theory, as male income increases, we should be more likely to see marriages. Only a few studies have explicitly tested the effect of gendered income on transition likelihood, but they have produced consistent results. They find that male income is positively related to the odds of marriage but find no effect on female income (Brown 2000, Sanchez, Manning and Smock 1998, Smock and Manning 1997). They also find that neither male nor female income affect the odds of dissolution. One study that did find an effect for women divided the sample up by poor and non-poor women. It was found that increasing female income lowered the marriage odds for non-poor women, but there was no effect for poor women or the combined sample (Lichter, Qian and Mellott 2006). The study did not look at male income. When looking at joint income it has been found that increasing income is positively related to dissolution odds (Brines and Joyner 1999), while a different study found no effect for combined income (Hohmann-Marriott 2006). Thus, it seems that traditional male gender roles still play a large part in promoting marriage among cohabitators. This is backed up by qualitative interviews which found that a man's income or employment was much more likely to be mentioned as a reason for delaying marriage as compared to women (Smock, Manning and Porter 2005). A sizable minority

of respondents mentioned that a male needs to be in a position to support his partner and/or family before he should get married.

Thus, we can draw two hypotheses from the interdependence aspect of exchange theory. The first is that relationships characterized by unequal economic partnerships will be more likely to transition to marriage as that partner at an economic disadvantage has greater motivation to secure a claim on joint assets and potential future earnings. Secondly, greater economic resources may lead to dissolution as individuals lessen their economic interdependence on each other. As scholars have noted about divorce; a stable relationship does not equal a happy one (Nock 2001). A person may be in an unhappy relationship but lack the resources to dissolve it. This is similar to the cost of divorce perspective (for an overview see Amato and Beattie (2011)) that argues that couples will postpone a divorce when economic times are hard until such time as they can afford to dissolve the relationship.

So far, this is a strictly economic argument, which is only half the picture. Becker explicitly incorporates intangibles into the equation (1974). Relationships are a process of learning and responding to a partner's emotional needs as much as the practical aspects of life as a couple. Satisfying a partner's emotional needs is a constantly evolving process and as a process of this evolution it becomes more relationship specific. Being in tune with a partner's needs and wants is only applicable to that partner, thus the person most suited to responding to your emotional needs is your partner; through sheer repetition if nothing else. Leaving a partner and starting a new relationship means forswearing everything you have emotionally invested in the relationship.

One of the most important forms of relationship specific capital is children. The dissolution of a relationship involving children will result in one or both partners experiencing a drop in the amount of time they are able to spend with their children and will alter the context of the parent-child relationship. Numerous studies have found that conceiving a child during a



cohabitation relationship increases the odds of marriage (Brown 2000; Manning and Smock 1995), decreases the odds of separation (Guzzo 2009) or both (Brown, Snyder, and Condo 2006; Manning 2004). Only one study that included a pregnancy during cohabitation variable found that it had no effect on transition odds (Smock and Manning 1997). This is line with what exchange theory would predict, as partners move to secure their relationship and protect this joint capital.

Most studies have found that having a child present has no effect of transition odds (Brines and Joyner 1999; Brown 2000; Brown, Snyder, and Condo 2006; Hohmann-Marriott 2006). Among these couples, it is conjectured that the respondents moved into the cohabitation as a reaction to the pregnancy or birth; thus cohabitation becomes the next level of commitment for the previously single couple. Lichter, Qian and Mellot (2006) found that having a child present in a relationship decreases dissolution odds among poor women, but there was no effect of children among non-poor women. Two studies using the NSFH found that having a child present increases the odds of marriage (Manning and Smock 1995; Smock and Manning 1997). This is contradicted by a study using the NSFG that found having a child present decreased marriage odds (Manning 2004).

Thus, we will derive four hypotheses from the relationship specific capital aspect of exchange theory. The first is that experience of pregnancy in a relationship will increase marriage odds and decrease dissolution odds as couples move to secure their relationship. The second hypothesis is that those coming into a cohabitation with a shared child will have decreased marriage odds and decreased dissolution odds. As per the authors above, I predict that among these couples the cohabitation relationship is the extra level of commitment they have made to each other and further transition to marriage is not a priority. The third hypothesis is that both relationships with a non-shared child or a blended family will have decreased marriage odds and decreased dissolution odds. Although studies have not looked at this previously, I believe that similar processes are operating as with shared children; where cohabitation is the extra level of

commitment. The fourth hypothesis is the effect of duration will differ according to subgroup. I expect the overall effect of duration to have limited interpretation, while modeling time within subgroup will be of higher utility.

Marriage relationships are exclusive; one can only have one concurrent marriage relationship therefore entering into one prohibits any others forming. One can have multiple friendships and allocate the time spent with each friend proportionately to the rewards they receive. A person can also have different friends that correspond to different interests or based upon social situations (Church friends, work friends, fishing buddies). A marriage partner on the other hand is exclusive, thus there is a huge entry cost into marriage where one forswears all other possible marriage partners.

However, this aspect leads to the critiques against exchange theory as it applies to marriage. The first critique is part of a wider critique against rational choice theories which states that for a choice to be rational it needs to have access to all appropriate information. This has given rise to 'bounded' rational choice theory where an actor will make the most rational choice within the bounds of the information he has (Rubinstein 1998). While a necessary limitation, it can be argued that this makes the theory lose predictive power and ultimately tautological. If we cannot hold that someone will make the objectively best choice, we have to try to define how they made the subjectively best choice. If we hold that people make rational choices, but we cannot measure it, we have to assume that the choice they made is the best one because they made it (for a good overview of this argument see Boudon (1998)).

As applied to marriages, this has serious implications for measurement. According to exchange theories, those marriages that will fail are those with low cohesion determined by the interplay of attractions, barriers and alternatives. But as we have no objective standard against which to measure cohesion, apart from the outcome itself, we are left with little to predict the outcome. Any error in our model can be captured under the umbrella of the intangible aspects of

the relationship. That is, we often have definite measures of a household's economic output or even time spent on domestic tasks, but we rarely have adequate measures of the emotional aspects of the relationship.

With these limitations in mind, I will argue that exchange theory still has a benefit to relationship theorists. While I agree that exchange theory has little use as a predictive tool, I will argue that it has greater use as an exploratory tool. This will be especially applicable when considering latent classes of cohabitators. By using the exchange theory framework, we can identify what factors are correlated with transitions to marriage and thus what drives cohesion amongst these subgroups. By exploring what drives cohesion among subgroups, I believe this will provide greater insight into the processes behind relationship decisions.

### **Marital Search Theory**

Another theory that seeks to explain partnership formation is marital search theory, a theory which is based upon job search theory in the economic literature. As developed by McCall (1970), job search theory is based on the idea of a reservation wage. Each individual has a wage distribution which is the wages that are available based upon the unique attributes of the individual. McCall conceptualizes this as a normal distribution, where most offers fall close to an average with rare outlying offers. This distribution is either known or unknown to the individual. Based upon his knowledge or expectation of this distribution, the individual will set a reservation wage; any offer that meets the reservation wage will be accepted and any offer below will be rejected. Note that the expected distribution and subsequently the reservation wage will change as the job seeker improves his knowledge of his actual wage distribution. As the job seeker begins to get offers, the shape of the distribution will begin to reveal itself.

There are numerous factors that will determine how a reservation wage is set. One factor is the costs involved in a search. Costs can be direct, such as having to purchase fuel to drive to numerous interviews, or indirect, such as the difference between the reservation wage and any unemployment benefits received. The lower the search costs, the higher the reservation wage will be, as the lower cost allows a long search in the hope of receiving an offer that falls on the right tail of the distribution.

The first to draw parallels between a job search and partner search was Oppenheimer (1988). Although she shies away from drawing a direct comparison between reservation wages and partner searches due to the complexity involved, the concept of a reservation wage can be applied to partner searches with a few important caveats. The first is that the criteria by which one judges a partner's suitability need not be directly articulable. While we may be able to articulate certain superficial requirements ("I would never date a smoker") or things we find intrinsically important ("My partner has to want children") our overall sense of requirements is much more likely to be latent. The second important caveat is that thresholds change over time as people gain greater knowledge of what a partner can realistically offer and also discover what is important to themselves. As Oppenheimer notes, we begin dating before we can realistically be said to be looking for a partner (Oppenheimer 1988), yet I will argue that this "pre-search" socialization has value in that it prepares people to have realistic parameters for a search.

Oppenheimer argues the young adults who are searching for a partner must therefore balance the costs of the search with the perceived benefit of the outcome. A long and intensive search may yield a better match, yet will also incur large costs in terms of effort and time and will forgo the benefits of a partner for a period of time. There is also a lot more uncertainty involved with a partner search as compared to a job search. In general, the responsibilities and rewards of a potential job are explicitly stated and one can quickly discount jobs that are not appealing. There is, of course, a lot more inefficiency and knowledge cost in a partner search, to find if a potential

partner possesses the attributes an individual desires, one must get to know them first. Thus, a partner search involves periods of brief investments of time and money as not all low quality matches can be immediately discarded in the same way we discard job offers that do not meet our requirements.

The strength of marital search theory is that it explicitly accounts for the uncertainty faced in the partner search process, which is especially important among young adults. As Oppenheimer notes, young adults are in the process of establishing their careers and their potential economic performance is unclear. Whereas exchange theory focuses upon current attributes, marital search theory argues that potential is more important than current status. Two possible indicators of future potential may be employment status and education. Previous studies have found conflicting effects of male employment with one study finding that full time employment increased marriage odds compared to unemployment with no effect on dissolution (Lichter, Qian, and Mellott 2006). This is compared to a study that found no effect on marriage odds but that male employment decreased separation odds (Manning and Smock 1995). Other studies found no effect of male employment (Brown 2000; Hohmann-Marriott 2006). The effect of female employment is just as muddled with findings of female employment increasing dissolution odds with no effect on marriage (Brines and Joyner 1999), increases marriage odds with no effect for dissolution (Lichter, Qian, and Mellott 2006) or no effect of female employment (Brown 2000; Hohmann-Marriott 2006; Smock and Manning 1997).

Note that all these studies are using a wider population of cohabitators, thus the current study will provide a clear picture by focusing just on young adult cohabitators. Additionally, they are not assessing the effect of employment relative to the partners; thus my first hypothesis related to employment is that those relationships where both partners are working full time will increase the hazard of marriage and decrease the hazard of dissolution. That is, both male and female employment will have a separate and independent effect. However, this hypothesis is

conditional upon group membership and this effect will be strongest among cohabitators who either have no children or become pregnant during the cohabitation.

Education has also been posited as a predictor of future potential. There are numerous aspects of education that may be relevant and I shall examine each on in turn. First, enrolment in education has been found to decrease marriage odds (Manning and Smock 1995), whereas other studies have found no effect for educational enrolment (Lichter, Qian, and Mellott 2006; Smock and Manning 1997). When looking at the effect of partner's education relative to each other, little effect has been found (Brown 2000). One study did find an effect of disparity, where one partner had a high school degree and the other did not. These couples had higher dissolution odds compared to couples that both did not have high school diplomas, yet no effects were found for any other combination of high school, less than high school and greater than high school (Hohmann-Marriott 2006).

When examining levels of education, there are numerous conflicting findings. While some studies have found no effect for high school degrees as opposed to less than high school (Brown, Snyder, and Condo 2006; Manning and Smock 1995; Smock and Manning 1997), while others have found that having a high school degree increases marriage odds for both men and women (Guzzo 2009; Manning 2004) or increases marriage and dissolution odds for men (Lichter, Qian, and Mellott 2006). Of those who included college degrees in their analysis Smock and Manning found that men had higher marriage odds, which was also found by Lichter et al. Manning and Smock (1997) did not find any effect for college degree, though they did not separate their sample by gender, so this is an overall college effect. An additional study found no effect for college for women (Manning 2004).

Marital search theory predicts that those with the higher potential are more likely to marry, thus I hypothesize that those with greater education will have correspondingly higher odds of marriage. My second hypothesis is that those who are enrolled in education will have lower

odds of both marriage and dissolution as they are still in the process of realizing their potential. I believe transitions will be delayed until their education is either completed or they un-enroll in school and there is less uncertainty about future economic potential.

Oppenheimer argues that there are two different processes operating in relationship formation. The first is selection where a person looks for a partner that has certain traits or characteristics that the person values. The second is socialization where partners change their traits in order to improve the quality of the relationship after the initial matching has taken place (Oppenheimer 1988). The importance of each aspect will differ from person to person and will directly impact the search length. If a person places a high value on their selection criteria, they will face a long search to find a partner that matches up with their ideal mate. Alternatively, people who accept low quality initial matches will face a longer period of socialization as the initial match is further from the ideal.

Thus, I will argue that cohabitation serves as a good compromise between a high quality initial match and a lengthy socialization period. Previous studies have shown that those who cohabit have successfully met an initial threshold of quality and there is a perceived suitability of a long term match (Sassler 2004; Smock, Manning, and Porter 2005). However, little adaptive socialization has taken place and a period of cohabitation is a relatively low cost (as compared to marriage) relationship form which allows the process of socialization as a co-residential couple to begin. Note that this is the beginning of the socialization process, thus partners will be assessing current socialization as well as potential for further socialization and compromise. I predict that these couples will have a longer cohabitation as they are cognizant of the uncertainty they face and place value upon the socialization process.

Cohabitation is also a way to diffuse the search costs while socialization takes place. Individuals are able to enjoy the benefits of economies of scale without the same legal entanglements that come with marriage. This is found in qualitative interview with younger

couples who mention that saving money or an unstable housing situation can be the impetus for moving in together (Sassler 2004). This perspective would help explain multiple cohabitations; as young people are facing costlier searches those with fewer financial resources may find multiple cohabitations a cost effective way to extend a search.

### **Institutional Effects**

This leads to the consideration of institutional barriers. Cohabitation does not take place in a context free environment and a multitude of conflicting pressures can promote continuing cohabitation, marriage or dissolution. Those who cohabit are in a uniquely vulnerable position as they do not share the same institutional protection and recognition as marriage does (Cherlin 2004) yet face the same challenges in combining households and forming an intimate relationship. This is especially true of cohabitators with children, a population that is considered so vulnerable that a large scale national survey, *Fragile Families*, is dedicated to documenting the unique challenges encountered by this group (Reichman et al. 2001).

Another area of cohabitation that lacks institutional norms is in the negotiation of partner roles. As mentioned in the introduction, it was first hypothesized that cohabitation was part of a movement against gender norms and although recent evidence tends to disprove this notion, the roles of partners in the relationship, and subsequently the meaning of the relationship itself, may need to be explicitly discussed. The avoidance of explicit defining the relationship has been linked to unstable relationships (Stanley, Whitton and Markman 2004, Stanley, Rhoades and Howard 2006) and those who enter with clear marital intentions are more likely to transition to marriage (Brown 2000, Guzzo 2009, McGinnis 2003). It has also been found that when cohabitators have different views on the division of household labor, dissolution is more likely to occur (Hohmann-Marriott 2006). This lack of societal norms about what a “good” cohabitation,



or cohabitation partner looks like, can result in more uncertainty about the relationship and leave it more vulnerable to dissolution.

Paradoxically, the high value that society places on marriage may constitute one of the largest institutional barriers when trying to transition to marriage. This has been explored in depth by qualitative studies with long term cohabiting couples – they place such a high value on marriage they avoid marriage until they have all the prerequisites for a proper marriage. Economic reasons were the most often mentioned, with cohabitators wanting to afford a “proper” wedding (Gibson-Davis, Edin and McLanahan 2005) and for male partners to assume the breadwinning role (Smock, Manning and Porter 2005). Marriage is held in high regard even by cohabiting couples who have shared children together (Reed 2006), with respondents placing a high value on marriage and simultaneously fearing it.

The converse of this is that the experience of cohabitation increases a respondent’s acceptance of it as a relationship form (Cunningham and Thornton 2005) and reduces the perceived benefits of marriage (McGinnis 2003). Numerous studies have indicated that the longer a cohabitation lasts the less likely it is to end in either marriage or divorce (Brown 2000, Brown, Snyder and Condo 2006, Lichter, Qian and Mellott 2006, Manning 2004). This may be due to relationship inertia (see Stanley, Rhoades and Howard (2006)) where the perceived benefits of marriage are not high enough to break the inertia, but nor are there enough/any reasons to dissolve the relationship. It is also plausible that the start of a cohabitation relationship is uniquely vulnerable to the effects of deinstitutionalization, but these effects lessen as a couple build their own relationship framework, lessening both tension within the relationship and how they present it to the outside world.

One of the most consistent findings in the cohabitation literature (and relationship literature in general) are the differences between racial groups. when it comes to entry into cohabitation Black respondents are more likely to cohabit than directly marry (Sassler and

Goldscheider 2004) and less likely to marry in general (Sassler and Schoen 1999) and Black respondents are much less likely to transition from cohabitation to marriage (McGinnis 2003, Manning and Smock 1995) and more likely to transition through relationship dissolution (Guzzo 2009). While this dissertation does not seek to provide a thorough exploration of racial differences and the mechanisms driving this difference, it will undoubtedly add to our knowledge through the unique model specifications and latent class analysis.

### **Current Study**

As detailed above, we have a wealth of knowledge about cohabitation relationships and numerous high quality studies have looked at transitions from cohabitation into marriage and dissolution. However, there are major gaps in our understanding of the cohabitation process, the presence of which hamper the development of theoretical explanations. This dissertation will significantly enhance our knowledge about the cohabitation process and the pathways young adults take on their way to forming their first marriage.

The first contribution of this dissertation is the inclusion of multiple cohabitations per person. The NLSY97 data starts when the respondents are between 12 and 16 years old and can measure multiple cohabitations per month, thus there is a high likelihood that it captures all co-residential relationships that a respondent experiences. Previous studies (due to data limitations) have only looked at either the first cohabitation<sup>3</sup> relationship or the most recent<sup>4</sup>, which can create sampling biases that limits the generalizability of the results. We are also able to use a much finer measurement of time as the NLSY97 provides monthly relationship statuses, as opposed to the yearly measurements that other studies have used. This greatly enhances the accuracy of event

---

<sup>3</sup> Studies based on NSFG

<sup>4</sup> Studies based on PSID, NSFH, NLSY79, Fragile Families

history models as we are moving closer to a continuous time approximation, which better fits the assumptions of the most informative event history techniques (Kalbfleisch and Prentice 1980).

Second, this dissertation moves away from treating cohabitation as a discrete event and conceptualizes it as part of a wider relationship pathway. By including a complete cohabitation history, we are able to trace a respondent's relationship as it is unfolding. When we also include unique partner identifiers and detailed partner attributes, we gain a much fuller understanding of the cohabitation process across the life course. This increases our confidence when making theoretical inferences as we are no longer reliant on one data point (relationship) per respondent.

By using multiple relationships and latent class analysis, I am able to look for common cohabitation pathways that young adults take on their way to marriage. This builds on previous work that has found latent classes in family formation behaviors (Amato et al. 2008) and work that has focused upon specific sub-groups of cohabitators. This is vital as previous studies have presented strong evidence that cohabitation experiences differ when a specific sample is studied (Carlson, McLanahan and England 2004, King and Scott 2005, Sassler 2004). I will use variables that have been identified in the literature as meaningfully defining a cohabitation type. With careful attention paid to time ordering, I will use variables that occur before any cohabitation experience to examine what traits select young adults into certain cohabitation pathways.

The focus upon multiple relationships and subgroups will allow several theoretical contributions. First, it allows us to better test the enduring traits hypothesis by incorporating a frailty variable which can be conceptualized as an individual's unique likelihood to experience a transition. Although we do not obtain a direct estimate of this hazard for each individual, we do obtain a variance component from the overall sample. As we add explanatory variables, we seek to reduce the unexplained portion of the variance, failure to do will indicate that unmeasured enduring traits are impacting transition timing. Second, by including background variables in both

a latent class prediction equation, and the within class event history model, we are able to better understand how background variables influence cohabitation transition odds.

### **Plan of analysis**

The analyses will be comprised of three main parts. The introduction will consist of basic descriptive statistics and a latent class analysis. In addition to the standard information about covariates, the basic statistics will examine the rates of transition, number of higher order relationships and the amount of re-partnering for the overall sample.

The first part of the analysis will be event history runs on the whole sample. This will be broken into 3 different models, the first model will be respondent characteristics, the second model will include certain partner variables to test the effect of gender and for the presence of gender interactions (e.g. does a college degree have different effects for males as compared to females). The third model will use the partner information to create parity variables (e.g. does the male partner make more than the female partner). Before conducting substantive analysis, a model without covariates will be run to assess the suitability of the frailty model. If the frailty is significant this will indicate there is significant within-person clustering and all additional analysis will include the frailty. The substantive analysis will consist of 7 runs for all three models. The first run will contain the race variables, as racial differences are consistently found in the cohabitation literature. The second run will include a range of background variables to test for mediation effects between race and relationship outcomes. Third, educational variables will be entered, with income and work variables entering in the fourth run. The fifth run will include starting income to test if it is changing income or starting income that effects outcomes. The sixth run will include fertility variables that indicate the presence of a shared pregnancy and shared or non-shared children. The seventh run will include an interaction term between shared and non-

shared child that will indicate the effect of a blended family. These seven runs will be completed for each of the three models (respondent, gender and parity) discussed above.

The second part of the analysis will use latent class analysis to look for substantively meaningful subgroups among our young adult cohabitators and then predict the likelihood of membership in each group based up their stable, background characteristics. I will also look at dynamic socioeconomic variables at the start and the end of a respondent's relationship history, to further help define the classes.

The third part will combine the latent class and event history analyses. For each class, there will be three runs containing the full run from the three models above. That is, each class will have the equivalent of run 6 for the respondent, gender and parity models. Although the model cannot handle by class interactions<sup>5</sup>, this analysis will indicate which variables have particular salience among a sub-group.

---

<sup>5</sup> A class interaction cannot be run because the latent classes contain both information on relationship outcome (number of relationships) and relationship length. Thus, we cannot include it in a model where the dependent variable is time to a certain relationship transition.

## **Chapter 3**

### **Data and Methods**

#### **Data**

Data were drawn from the National Longitudinal Survey of Youth 1997 Cohort (NLSY79), a yearly longitudinal study that has 15 waves currently available. The study is designed to be nationally representative of youth living in the United States on January 1st 1997 and who were born between January 1st 1980 and December 31st 1984. Thus, at the first interview the respondents were aged between 12 and 18 years old with the ages at the last wave between 27 and 33 years old. Of the 8984 individuals interviewed in the first wave, 83% (7,423) were interviewed in wave 15. Data from all available waves are used in the current analysis. If a respondent was not retained between waves, information that was collected previously was used in the analysis. If a respondent was unavailable for a certain wave, the NLSY79 design asked them to retrospectively provide information on their relationship status during their periods of non-response.

For the bulk of the analysis, I focus upon months spent in a cohabitation relationship. By the last wave, 5184 of the sample had lived in a cohabitation relationship and contributed 183,768 person months of data across all cohabitation relationships. Only those months spent in a cohabitation relationship were included; months spent while single (either pre-cohabitation or between cohabitation relationships) were excluded and first marriage was treated as a censoring event. Only those who lived with an opposite sex partner were included, as marriage was not legally available to all same sex couples throughout the observation period. An individual who lived in any same sex co-residential relationship had all relationships excluded as they cannot

have had the same risk of marriage throughout the observation period and thus the competing risks assumption cannot hold. Thus, the final sample consisted of 5073 individuals contributing 179,547 person months.

## Variables

As the research question is focused upon transitions in and out of relationships a nominal variable was constructed indicating a respondents relationship status for each month, with a base value of 0 for those were cohabiting in that month. A value of 1 indicates that the respondent married that month while a value of 2 indicated that the relationship dissolved that month. If a person dissolved a relationship, they were coded as missing until they started a new cohabitation relationship, at which point they were included back into the data set. If a person transitioned into marriage they were censored from the data set in order to focus on premarital transitions only. Thus, any cohabitation experienced after a marriage (and divorce) will not be included<sup>6</sup>.

Time in relationship is measured in months. As people are not at risk of transition until they are in a cohabitation relationship, time restarts for each discrete cohabitation relationship. Each relationship starts with a value of 1<sup>7</sup> and monotonically increases each month until the relationship transitions.

Exchange theory identifies economic factors as playing a key role in relationship cohesion. Therefore several difference indicators of economic activity were included. The NLSY asks respondents to provide information on both their own income and their partner's income.

---

<sup>6</sup> Although these post-marital transitions are undoubtedly a part of a relationship trajectory, they are outside the scope of the current work. In order to obtain accurate estimates for this trajectory, we would need to use model with multiple at-risk states, for example a Cox Semi-Markov (Meira-Machado et al. 2009) which are not currently estimable under the current framework with the software available.

<sup>7</sup> Note that we cannot start our month variable at 0 as this would indicate a pre-risk phase. As our first observation is at the end of the month after the relationship formed we do not obtain a true entry into the relationship. Thus all relationships are treated as left censored, which also allows us to account for all pre-cohabitation relationship dynamics.

Personal income consists of wages, tips, salary and income from a farm or business. Respondents were asked to provide a dollar amount. If they were unable or unwilling, they were then offered a dollar range and asked to estimate into which range their income was most likely to fall. In these cases the midpoint of the range was used. If they failed to provide this information their income variable was coded as missing. The respondent was then asked the same questions about their partner's income. These were then combined to create a household income variable. As the NLSY97 includes these separate measures, it is possible to test the effect of specialized gender roles. Variables were also created that indicated if the male partner earned more, the female partner earned more, or both partners earned the same amount<sup>8</sup>. As we are interested in selection versus experience, I also included starting values for household income, male income, female income, and parity variables to capture income values at the start of each relationship.

Among cohabitators, education has been demonstrated to be an important stratifier. It is also considered to be an indicator of future potential as well as a marker of social class. Therefore education will be measured several ways. A dummy variable will be created to indicate if the respondent was engaged in tertiary education for that month. This will include 2 year colleges, 4 year colleges, graduate and professional programs. The second measure of education will be the highest degree ever received by the respondent and a second variable for the partner. This is a time varying variable as individuals may complete a degree while cohabiting. As the literature has identified that male and female education may have differing effects, variables will be included that test the independent effects of male and female education. To test the effect of relative education, a variable indicating the level of male education to female education will be

---

<sup>8</sup> Actual dollar amounts were used to construct this variable. Various bracketing specifications were tried (e.g. within \$5,000 of each other) as well as a continuous variable that measured percentage of household income contributed by the male partner. These alternative specifications provided little extra information and no improvement to model fit, therefore actual dollar amounts were used.



created. This will indicate if the male partner has higher education, if the female partner has higher education, or if the couple is at parity.

A variable will be created to measure the respondents work hours (or work status) for each month. In analyses using respondent information only, this variable will be kept as is. Note that there were some unrealistic values on this variable, with the maximum number of 832 translating to 26.9 hours of work per day over a 31 day month. Both capped (capped at 372 for 12 hours per day for 31 days) and uncapped variables were used with no significant difference in the models. Therefore the uncapped variable will be used. When reporting on partner employment, respondents were asking if their partner worked full time, part time or did not work. Thus, in the gendered and parity analysis the respondent's variable will be recoded to maintain comparability. If a respondent works 160 hours a month (4 40 hour weeks) or more, they will be considered full time, less than 160 but more than 0 will be considered part time. Zero hours worked will be considered unemployed/out of the labor force; unfortunately no information is provided to separate the unemployed, the disabled or those who are voluntarily out of the labor force. Two variables will be created to indicate if the male partner worked more or if the female partner worked more, with work status parity serving as the omitted reference category.

As many cohabiters now experience various fertility events in their relationships, numerous variables will be created to accurately capture these events. A dummy variable will indicate if the couple is currently pregnant with a shared child (that is, both parents are biological parents). As no information is available on time of conception, this will be coded as 9 months previous to the birth of the child. This variable will be time varying.

A second set of variables will indicate the presence of children. A dummy variable will indicate the presence of a shared child(ren) (note that this will not be sensitive to the presence of multiple children). Secondly, a dummy variable will indicate if there is a non-shared child(ren) in the household, while a third will indicate a blended family with both shared and non-shared

children present. Note that these variables will not be mutually exclusive and therefore the Blended variable should be treated as an interaction variable. Also note that children outside the household are unable to be measured.

Race will be measured for both respondent and partner as non-Hispanic black, non-Hispanic other and Hispanic with non-Hispanic white as the comparison group. Variables will be created that indicate all non-Hispanic black, all Hispanic, all non-Hispanic other and mixed race couples (with all non-Hispanic white couples serving as the reference). Age when relationship started will also be included for both partners as well a relative measure of male age minus female age. Numerous family of origin variables will be included to predict membership of the relationship pathway latent variables. Note that all background variables were measured at the time of the first interview, when the respondent was aged between 12 and 18. Mother's highest level of education will be included with dummy variables indicating high school degree, college degree or less than high school degree as the reference category. Mother's age at her first birth is included. The family form is broken down into dummy variables indicating a step family, a single parent family, other family form, or two biological parents as the reference category. A set of dummy variables indicating the region of residence at first interview is included consisting of north central, south, or west with north east as the reference. A second variable will indicate if the household was located in a Metropolitan Statistical Area (MSA) or not..

## **Methods**

### **Accelerated Failure-Time**

In the social sciences, very rarely do we conceive of our outcome as happening by random chance. Instead, we seek to identify variables that alter the chance of an outcome

occurring to person 1 as opposed to person 2. As a corollary to this, we do not generally perceive that events are *timed* randomly, but there is some underlying process that causes an event to happen at time  $y$  rather than time  $x$ . We can know that an individual with characteristic  $X1$  is more likely to experience an outcome, yet this does not provide us with information on when the outcome will occur.

A lot of event history techniques arose from the medical literature, where time to event can be of critical importance. For example, a person may contract a disease (enter the risk set) and be given a prognosis (a baseline hazard) for possible outcomes (failures). The doctor will then attempt to alter this baseline hazard through treatments to prevent or delay death (reduce the hazard rate for failure1) or hasten recovery (increase the hazard rate for failure2). Note that even though one outcome is clearly preferable to another, both are classified as failures. Event history terminology is value neutral; a failure simply means they 'failed' out of the risk set.

There are two important things of note in the above example. First, note that a treatment may simply delay a failure, rather than lower the chances of experiencing it. However, changing the shape of the hazard rate function can be of interest to the researcher, even when an outcome does not change. In the above example, a drug that delays death when an individual has a terminal illness would be of great interest to the medical community. Secondly, the concept of a baseline hazard function is of vital importance to event history techniques.

The baseline hazard function is the shape of the underlying risk (Kalbfleisch & Prentice, 1980). At its most basic, we can include a linear time variable to a longitudinal analysis. This assumes that the risk will increase in a linear fashion, for every increase in the time unit there will be a corresponding increase in the baseline hazard rate. However, it is rare that the assumption of a linear increase will hold. When we try to specify an underlying baseline hazard of any form, we are setting parameters on the model. Thus, this is called a parametric model.

All parametric models have the same general likelihood function (Cleves, Gutierrez, Gould, & Marchenko, 2010, p. 245):

$$L_j(\beta_x, \theta) = \frac{\{S(t_j|X_j\beta_x, \theta)\}^{1-d_j} \{f(t_j|X_j\beta_x, \theta)\}^{d_j}}{S(t_{oj}|X_j\beta_x, \theta)}$$

where  $f()$  is the density function of the assumed distribution,  $S()$  is the related survival function and  $t_{oj}$ ,  $t_j$ ,  $d_j$  and  $x_j$  are information from the  $j$ th observation.

Another major advantage of this model is how it handles censored data. This is of particular importance to the study of young adult cohabitators as there are multiple forms of censoring that occur. The major form of censoring is right censoring; that is, our observation window has ended before we know the outcome of a cohabitation. In this form of censoring, we regard the censoring event as non-informative; that is, the processes that lead to the censoring (dropping out of the study or the observation window closing) is not related to the hazard rate. In our dataset, 775 relationships are right censored, just over 8%, a not inconsiderable amount. However, these censored cases still contain useful information, thus a partial likelihood function is estimated where censored cases are used to estimate a survival function, yet not to the hazard function. This has the advantage of using the information available (we know they have survived to their censoring date) without making assumptions about the individuals hazard rate (Box-Steffensmeier & Jones, 2004).

However, there are two aspects of our data that a standard event history model cannot handle. The first is that a respondent can re-enter the dataset after a failure and can thus be exposed to multiple failures. As it seems likely that there will be a correlation between the hazard rates of a respondent's first and higher order relationships, this correlation must be accounted for. To account for the correlation a shared frailty is introduced to the model (Cleves et al., 2010):

$$h(t_{ij} | x_{ij}, \alpha_i) = \alpha_i h(t_{ij} | x_{ij})$$

where  $i$  denotes the groups ( $i=1, \dots, n$ ) and  $j$  indicates the observation within group. Thus, the frailty  $\alpha_i$  is shared within the group (that is, within the individual person) and follows a gamma distribution that has a mean of 1, with an unknown variance equal to some parameter  $\Theta$  (Box-Steffensmeier & Jones, 2004); which is to be estimated. In this format, if the frailty variance is equal to zero, the mean of 1 will be applied to each  $i$ th individual, which will be our traditional event history analysis. Thus, a frailty can be compared to a random effect in a multilevel model.

The concept of a frailty variable arose from the medical literature where researchers needed to control for an individual's propensity to experience an outcome, usually death. Frailty was therefore extremely literal, it measured an individual's physical frailty. In the current study, this interpretation is unsuited and potentially misleading. Rather, we can conceptualize the frailty as an individual's stable propensity to experience an outcome (or unique hazard). While I do not directly estimate the components of an individual's unique hazard, any variables that are added to the model and reduce the frailty estimate will be considered explanatory.

The second problem that is unique to the data is that respondents are simultaneously at risk for two outcomes: marriage and dissolution. To account for this I will follow the approach of Crowder (2001) and his conceptualization of latent failure times. As it is assumed that each individual is at risk for both outcomes, there exists a *potential* failure time that is associated with each outcome. Hence, for  $K$  outcomes there are theoretically  $T_k$  times to outcomes; however only the shortest one is observed. Thus, if we can assume that all outcomes have a theoretical time to failure, we can treat the observed outcome as a censoring event. That is, for the remaining outcomes, the data has been right censored. This is especially applicable to the current study, as people are specifically allowed to re-partner; and we see numerous respondents dissolve their relationship and then reform their partnership on the way to eventual marriage. Thus, for this study, the latent time to outcome among competing risks is not just theoretical, but directly observed.

When using parametric event history regression, great care has to be taken when specifying the form of the distribution. When choosing a distribution we are imposing strict limits on what form the hazard can take; mis-specify the distribution and the results will be wildly inaccurate (Kalbfleisch & Prentice, 1980). Stata offers the following distributions: exponential, gompertz, loglogistic, Weibull, lognormal and gamma (Cleves et al., 2010). I tested each distribution with a frailty only model as well as a fully specified model for each outcome. This was then repeated for each class. Model fit statistics indicated that the loglogistic distribution had the best fit for every specification that I ran. Thus, it is definite that cohabitation transitions have the same underlying hazard distribution and this holds constant across subgroups.

### **Latent Class**

As noted above, cohabiters are a heterogeneous group; therefore the first logical step is to identify any latent classes of cohabiters. While this is of substantive interest itself, it will also allow regression models to be run on these individual classes to see if the predictors of a transition will vary by class. Latent class analysis is designed to identify unobserved heterogeneity in a population and create substantively meaningful groups of people that share commonalities on the specified variables (Nylund, Asparouhov, & Muthen, 2007). This is achieved through estimating a latent categorical variable by regressing it on substantive, observed variables. Let  $r$  be the number of observed variables  $u$  used to estimate  $c$ ; an underlying categorical variable with  $k$  classes. With the assumption that the classes are conditionally independent, the joint probability of the  $r$  observed items is:

$$P(u_1, u_2, \dots, u_r) = \sum_{k=1}^K P(c = k)P(u_1|c = k)P(u_2|c = k) \dots P(u_r|c = k)$$

$u$  is a vector of covariates consisting of number of shared children (0, 1, 2, 3+), number of non-shared children (0, 1, 2, 3+), any shared pregnancy during cohabitation (0, 1), age at first cohabitation (13/21=1, 22/25=2, 26/28=3, 28/36=4), average length of relationship (0/6 months=1, 7/12 months=2, 13/18 months=3, 19/24 months=4, 25+) and total number of cohabitations (1, 2, 3+).

There is no clear criterion for selecting how many classes is appropriate, there are however many statistical tools to guide this choice. The likelihood-ratio statistic  $G^2$  is given by Agresti (1990) to help assess absolute model fit, with larger values indicating a larger likelihood of the null hypothesis being rejected. However, as parsimony is also valued, the Akaike information criterion (AIC) (Akaike, 1974) and the Bayesian information criterion (BIC) (Schwarz, 1978) were developed to penalize the  $G^2$  for the number of parameters estimated. The AIC and BIC decrease as the model fit improves. Another often employed statistic when choosing between models is the Entropy score (Collins & Lanza, 2010). This statistic ranges from 0-1 with a score closer to one indicating better latent class separation. In selecting the appropriate number of classes I will rely primarily on the AIC, BIC, Entropy and classes that make substantive sense according to existing literature.

### Missing Data

Missing data is a ubiquitous problem in social science research. Allison (among many others) has advocated for multiple imputation as one of the best methods for handling missing data (Allison, 2002). The basic imputation model for missing values on  $X$  is given by:

$$(x_i) \sim a + by_i + s_{(x,y)} u_i$$

Where  $u_i$  is a random draw from a normal distribution  $s_{x,y}$  is the estimated standard deviation of the error term (Allison, 2002). Note that  $a$ ,  $b$  and  $s_{x,y}$  are sample estimates created by Markov Chain Monte Carlo (MCMC) simulation.

However, there is an additional complication that needs to be accounted for. The data are clearly clustered as there are multiple observations within the same person; this dependence needs to be accounted for. Traditionally, the solution is to convert the data into a 'wide' format data file, where a variable is created for each variable at each wave (for example Income1, Income2, Income3). However, with over 186 possible time points, this is impractical for the current dataset. The second option is to create a multilevel imputation equation which can be estimated by the MPlus software program (Asparouhov & Muthen, 2010). This model will not only account for the cluster, but allow the specification of between level variables which will be estimated as random effects. Using this random effects method, 10 imputed data sets were created.

All other analysis will be conducted in Stata 13, using the MI Estimate command to combine these 10 imputations into a single multiple imputation estimate.



## Chapter 4

### Results

Table 4-1a: Descriptive Statistics - Categorical Variables - Time Invariant

		Total			Missing		
		Cases	Person Months	Percent Person Months	Cases	Person Months	Percent Person Months
<b>Full Sample</b>		5073	179547	100	0	0	0
Female		2614	96071	53.51	0	0	0
Fertility Events (Any pregnancy or child present during the relationship)	None	2488	67901	37.82	0	0	0
	Any Fertility With Residential Partner Only?	1314	56531	31.49			
	With Non Residential Partner Only	528	15654	8.72			
	Combination	743	39461	21.98			
Race	Non-Hispanic Other	2750	91627	51.39	41	1276	0.71
	Non-Hispanic Black	1257	43537	24.42			
	Hispanic	1025	43107	24.18			
Region When First Interviewed	NorthEast	879	32707	18.22	0	0	0
	North Central	1218	41948	23.36			
	South	1852	63088	35.14			
	West	1124	41804	23.28			
Parent Status	Two Biological Parents	2184	70623	39.54	20	945	0.51
	Step Parent	808	29822	16.7			
	Single Parent	1720	64868	36.32			
	Other	341	13289	7.44			
Rural/Urban	Lived in MSA?	4089	144090	80.25	0	0	0
	Lived Outside MSA	984	35457	19.75			
Mother's Education	Less than High School	1162	46765	28.41	404	14961	8.3
	High School	2820	98100	59.6			
	College	687	19721	11.98			
Partner Race	Non-Hispanic Other	3440	88278	55.98	2097	21848	12.17
	Non-Hispanic Black	1252	33859	21.47			
	Hispanic	1113	35562	22.55			

Table 4-1a provides the descriptive statistics for the time invariant categorical variables. Females slightly outnumber males in our sample (51.5%) and contribute more person-months than men. A slight majority of cohabitators (51%) will experience some form of fertility event during their cohabitation trajectory, with the majority of those experiencing fertility having a shared child only. The second most populous group was those who experienced either a blended family or a combination of shared and non-shared at different time points. Just over 10% of our sample lived with a non-shared child only during a relationship.

The majority of our sample consists of non-Hispanic Whites (51%) while 41% of partners were non-Hispanic White. Non-Hispanic Blacks make up 25% of our sample due to the Black oversample of the NLSY97<sup>9</sup>. We see a slightly lower percentage of non-Hispanic Black partners (16%). Hispanics of any race make up 20% of our respondents compared to 14% of partners. Non-Hispanics of other races make up 2% of our respondents and partners. Note there is a higher rate of missing data on partner race with 26.5% of all partners having no race reported.

When assessing region of first interview, the largest number of respondents lived in the South (37%), with roughly equal numbers living in the North Central (24%) and Western (22%) regions. 17% lived in the North East. A large majority of respondents live in a metropolitan statistical area (81%). At the first interview, 43% of respondents lived with both biological parents, while 34% lived in a single parent household. 16% of respondents lived in a step-family and 7% lived in some other family form. A majority of respondents had a mother with a high school degree (56%) with a further 14% having obtained a college degree. Around 23% had not completed high school and there was no data available on the remaining mothers (8%).

---

<sup>9</sup> Although no weighting is used, I account for the oversample of non-Hispanic Black respondents by including race dummy variables in all analysis.

		Table 4-1b: Descriptive Statistics - Categorical Variables - Time Varying					
		Total			Missing		
		Cases	Person Months	Percent Person Months	Cases	Person Months	Percent Person Months
Enrolled in Education	Yes	1447	20594	11.47	0	0	0
Education	No HighSchool Degree	1407	45083	25.11	0	0	0
	HighSchoolDeg	4177	134464	74.89			
	Bachelor Degree	808	18687	10.41			
Number of Relationships	1	3206	87889	48.95	0	0	0
	2	1234	54440	30.32			
	3+	633	37215	20.73			
Currently Pregnant with biological child?	Yes	1702	15084	8.4	0	0	0
Currently have child with partner only?	Yes	1553	45758	25.49			
Have child with other partner only?	Yes	881	32019	17.83			
Have Blended Family?	Yes	504	14143	7.88			
Partner Employed	Not Employed	2626	33875	22.18	1091	26790	14.92
	Part Time	1937	20571	13.47			
	Full Time	5497	98311	64.36			
Partner Degree	No H/S	1601	31701	20.8	1101	27163	15.13
	H/S	5136	99589	65.35			
	College	1301	21094	13.84			
Partner Income Missing	Yes	637	17248	9.61	0	0	0

Table 4-1b provides the descriptive statistics for the time varying categorical variables. While 29% of respondents were enrolled in college at some stage of their cohabitation, enrolment consisted of 11% of person months suggesting that cohabitation in college is not a long term arrangement. The vast majority of respondents (82%) had a high school (or GED) degree with a further 16% of respondents obtaining a bachelor's degree as well. The majority of partners achieved a high school degree (n=5136) with a further 1301 achieving a bachelor's degree. However, there was more missing data with no educational information for 1101 partners. Partners spent a large majority of their time employed with 5497 experiencing a period of full time employment.

The majority of our respondent's had just the one cohabitation relationship (63%); 37% had a second relationship, and 12.5% of our sample had 3 or more relationships. A third of respondents experienced a shared pregnancy with their cohabitation partner (n=1702). Further analysis shows that 43% of those who experience a pregnancy are spending less than a full 9 month pregnancy in a cohabitation; 34% experience a full term pregnancy while cohabiting and the remaining 23% experiencing pregnancy with additional children.

Just under a third of respondents experienced a cohabitation with a shared child(ren) only, while 17% had a relationship with just a non-shared child at some stage. Around 10% experienced a blended-family cohabitation at some point in their relationship. Using the presence of children variables only, we see that 51.2% of all cohabitation months are spent with children in the household. When adding the 8.4% spent pregnant, only around 40% of cohabitation months are spent with no fertility events. It is clear that cohabitation and fertility are becoming increasingly intertwined.

Table 4-1c: Descriptive Statistics - Continuous Variables							
		Cases	Total			Missing	
			mean	min	max	Cases	Person Months
Time Invariant							
Age of Mother at First Birth	Years	4656	22.37 (4.85)	1	49	417	15726
Parent Net Worth	\$	3824	79856.7 (125110.3)	-487000	600000	1249	43908
Age First relationship started							
	Months	5073	273.17 (39.24)	180	387	0	0
	Years		22.76417	15	32.25		
Age at first sex	Years	4815	15.5 (2.43)	5	24	258	7723
Time Varying							
Length of Relationship							
	Months	7902	21.77 (23.01)	0	185	0	0
	Years		1.814167	0	15.41667		
Partner Start Age	Years	7744	22.11 (4.85)	0	59	158	3525
Hours worked in month		175223	121 (88.86)	0	832	29	4324
Household income	\$	157656	33277.16 (33887.37)	0	600000	130	21891
Male Percent of Couple Income		143849	60.14 (34.64)	0	100	320	35698

Note: Standard errors in brackets

Table 4-1c provides the descriptive statistics for continuous variables. Age of mother at first birth has a mean of 22.4 with a range of 1 to 49. Note that while unusual age values exist for most age variables (age at first sex, partner start age), they are usually less than 1% of total values. Capping variables at more realistic values produced no substantive change and therefore uncapped values are used for all analysis. The average age when the first cohabitation started was 22.8; however the maximum age of 32.25 is the highest possible value due to right censoring;

thus this average age will increase as new data becomes available and older respondents form their first relationships.

The average relationships length is 21.7 months (1.8 years) with relationships lasting from less than a month to the maximum possible value (before right censoring) of 185. However, this average is slightly misleading as the median cohabitation length is 13.5 months, once again suggesting that there are distinct differences in cohabitation experiences.

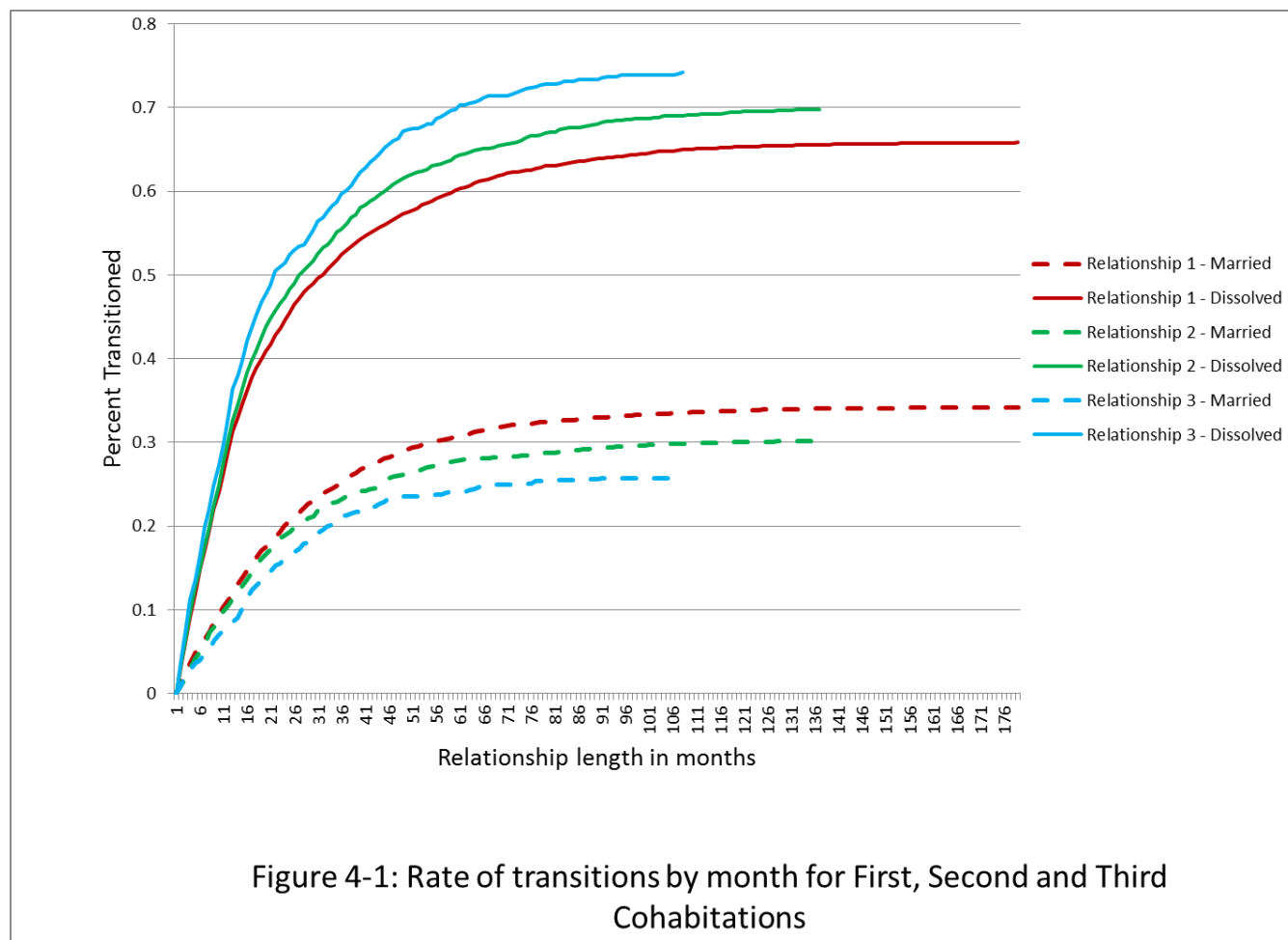
Cohabitors are working an average of 121 hours per month with a median of 151.7. Couples have a relatively low household income of \$33,277 as they are young adults starting careers. Males earned an average of 60% of a couple's household income with a median value of 61%. For 16% of person months the female partner was the sole income earner, compared to 27% of months when the male partner was the sole earner.

Table 4-2: Rate of transitions by month for First Cohabitation

Month	Still Cohabiting	Married	Dissolved	Total
0	100	0	0	5073
6	76.38	6.63	16.99	4996
12	56.52	12.19	31.29	4899
18	42.93	17.25	39.82	4829
24	33.76	20.89	45.35	4778
36	21.3	25.99	52.71	4663
48	13.81	29.21	56.98	4605
60	8.75	31.25	60	4538
72	5.56	32.47	61.97	4481
84	3.88	33.02	63.1	4434
96	2.5	33.56	63.94	4401

Transitions from cohabitation relationships are happening fairly quickly among our sample. In the first relationship (Table 4-2) we see transition outcomes favor dissolution by around 2:1, a ratio that is fairly constant across relationship lengths (although there is slightly

higher rates of dissolution for relationships lasting less than a year). As respondents enter higher order relationships, there is progressively larger ratios of dissolutions as compared to marriages. This is shown graphically in Figure 4-1 and additional tables are available in the appendix (pg. 73-74).



When looking at average relationship length, we see a general decline in length (measured by both median and mean) as relationship order increases. However, the averages hide an interesting pattern. If we isolate those respondents who only had one relationship, we obtain a median length of 17 months (mean of 26). However, if we look at the length of first relationship

among those who had two relationships, we see that the median is 11 (mean of 17.5) months, while their second relationship had a median of 15 (mean = 23). Even when we restrict our universe to those whose first relationship failed, we still see that those who will go onto a second relationship have significantly shorter first relationships. For people who had three relationships, the first relationship had a median of 9 (mean of 14.9) months, second relationship had a median of 12 (mean of 17.4) and the third relationship had a median of 15 (mean of 20.8). Thus, even in their very first relationship, distinct pathways have already begun to form, with short first relationships seemingly related to a higher chance of moving on to subsequent higher order relationships.

### Event History

	Married	Dissolved
Frailty	6.6476*** (0.2249)	3.2507*** (0.1001)
LR Test	3724.05	5649.1
p	0.000	0.000

Table 4-3 shows there is a significant frailty when estimating both dissolution and marriage hazards. Therefore, all subsequent regressions will include the frailty. As we are working within the accelerated time metric, all positive coefficients indicate that time-to-event is lengthened and the event takes longer to occur; whereas negative coefficients indicate that time to event is accelerated and the event will happen quicker.



Table 4-4: Parametric Event History Analysis for Full Sample - Repondent Variables (reduced format)<sup>1</sup>

	Model 1		Model 2		Model 3		Model 4	
	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution
Non-Hispanic Black	0.528*** (0.056)	-0.405*** (0.050)	0.636*** (0.062)	-0.316*** (0.058)	0.617*** (0.062)	-0.163** (0.054)	0.578*** (0.059)	-0.302*** (0.050)
Hispanic	0.458*** (0.056)	0.216*** (0.055)	0.410*** (0.062)	0.197** (0.061)	0.373*** (0.061)	0.268*** (0.057)	0.337*** (0.059)	0.086 (0.052)
Non-Hispanic Other	0.327** (0.125)	0.079 (0.125)	0.340** (0.128)	0.024 (0.123)	0.328** (0.125)	-0.027 (0.115)	0.312** (0.119)	-0.133 (0.103)
Relationship Number			-0.138*** (0.028)	0.436*** (0.020)	-0.128*** (0.027)	0.413*** (0.019)	-0.108*** (0.026)	0.326*** (0.019)
Age Relationship Started			-0.060*** (0.007)	0.046*** (0.006)	-0.053*** (0.007)	-0.011 (0.006)	-0.051*** (0.007)	-0.008 (0.006)
Religiosity Index			-0.122*** (0.024)	-0.043 (0.025)	-0.115*** (0.023)	-0.037 (0.023)	-0.114*** (0.022)	-0.057** (0.021)
Enrolled in College					0.087 (0.048)	-0.030 (0.038)	0.094* (0.046)	0.050 (0.035)
Has High School Degree					-0.171** (0.058)	0.132** (0.042)	-0.157** (0.054)	0.152*** (0.038)
Has Bachelor's Degree					-0.067 (0.058)	0.214*** (0.061)	-0.058 (0.056)	0.336*** (0.057)
Hours worked in Month					0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Household Income					0.035*** (0.008)	0.160*** (0.010)	0.032*** (0.008)	0.149*** (0.009)
Household Income Squared					-0.001** (0.000)	-0.004*** (0.000)	-0.001** (0.000)	-0.004*** (0.000)
Household Income at Start of Relationship					-0.086*** (0.014)	0.071*** (0.019)	-0.079*** (0.013)	0.060*** (0.016)
Household Income at Start of Relationship Squared					0.003*** (0.001)	-0.003** (0.001)	0.003*** (0.001)	-0.002* (0.001)
Shared Pregnancy							-0.461*** (0.042)	0.515*** (0.041)
Non-Shared Child Present							-0.049 (0.046)	0.284*** (0.035)
Shared Child Present							0.340*** (0.039)	0.950*** (0.030)
Frailty	4.538*** (0.083)	3.298*** (0.081)	4.562*** (0.085)	3.460*** (0.066)	4.556*** (0.085)	3.271*** (0.067)	4.426*** (0.087)	3.063*** (0.067)
Constant	3.246*** (0.043)	3.744*** (0.057)	5.868*** (0.220)	2.093*** (0.217)	5.679*** (0.223)	3.004*** (0.207)	5.510*** (0.219)	2.386*** (0.192)
Observations	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547
Number of groups	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073
Number of Failures	2118	4392	2118	4392	2118	4392	2118	4392
Average F	41.89	38.95	25.79	76.62	21.35	79.17	29.38	107.3
Average p-value for F	0	0	0	0	0	0	0	0

Standard errors in parentheses

\*\*\* p&lt;0.001, \*\* p&lt;0.01, \* p&lt;0.05

<sup>1</sup> Select background variables have been omitted for clarity. For full table, please see appendix pg. 77

Figure 4-2a: Hazard of Marriage over time by Race

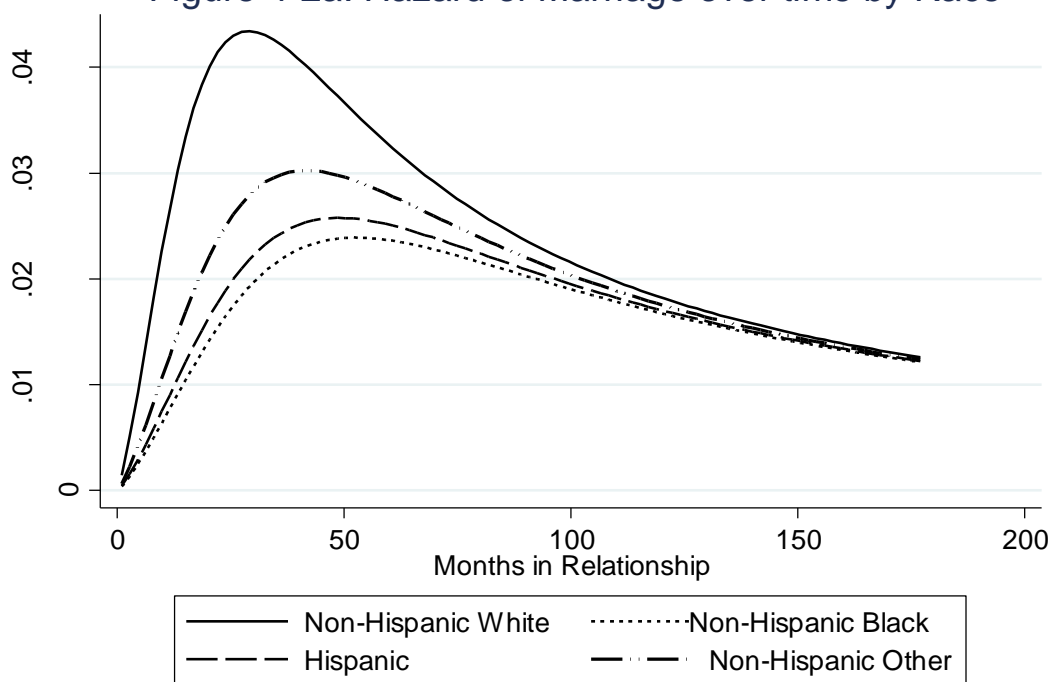
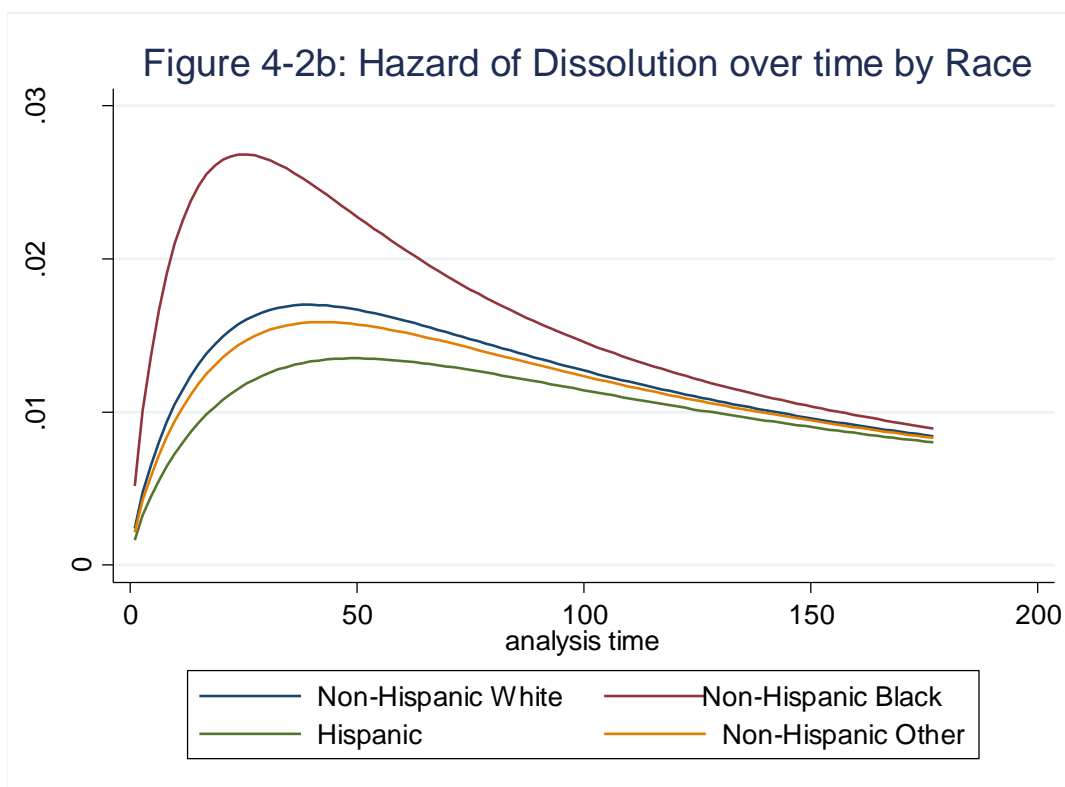


Figure 4-2b: Hazard of Dissolution over time by Race



There are consistent race effects in the event history models with non-Hispanic Black respondent's experiencing longer times to marriage and shorter times to dissolution across all model specifications. There is little change in the coefficients, suggesting little to no moderation effects by socioeconomic or fertility variables. Hispanic respondents have longer cohabitations than non-Hispanic whites, although this is most pronounced in relationships without fertility events. Mixed race couples also experienced a greater rate of dissolution than non-Hispanic white couples. Thus, the clearest finding from the racial analysis is the advantage non-Hispanic Whites enjoy when looking at chances of transitioning to marriage. This is shown graphically in Figure 4-2a.

College enrolment is not significant<sup>10</sup> in any of the model specifications, but educational attainment does play a role in predicting transition timing. Respondent's obtaining a high school degree have a higher chance of marriage with decreased time to marriage and a corresponding increase in time to dissolution, while obtaining a bachelor's degree was associated with increased time to dissolution. Further testing revealed an interaction between gender and high-school degree, with high school degree having a stronger protective effect for dissolution among females, while males had a stronger effect for marriage.

In the respondent model, hours worked and household income have very similar effects in increasing the time to marriage and dissolution. When we include the household income at the start of the relationship, we see that a higher starting income is related to shorter time to marriage and increased time to dissolution. Both the dynamic effect of household income and the static effect of starting income decrease as income increases. When examining income by gender, the most interesting finding comes from starting income. Female starting income provides a protective effect against dissolution (which diminishes at higher dollar values), while male income decreases time to marriage (effect diminishes at higher dollar value) and increases time to

---

<sup>10</sup> According to model fit statistics, see appendix pg.79

dissolution. There is support for the notion that traditional gender roles still play a role in relationship transitions, with transitions to marriage happening quicker when the male partner has a higher starting income than the female partner. When looking at our dynamic variables, partnerships where the female partner is earning more have a decreased time to dissolution compared to couples at parity, while couples where the male partners earn more have a longer time to dissolution.

Fertility variables have clear and consistent effects across all analysis specifications. Experiencing a shared pregnancy decreases time to marriage and increases time to dissolution, while a non-shared child has a preventative effect against dissolution. A shared child increases time to both marriage and dissolution, suggesting that people with a shared child have longer cohabitations. Those with a blended family have a decreased time to dissolution with no effect on marriage.

Through multiple model specifications and additional analysis, there are a few surprising themes that are consistent through the analysis. First, there is little moderation or mediation effect when additional variables are added to a model. Coefficients are remarkably stable. Secondly, when it comes to socioeconomic variables, traditional gender roles seem to support better relationship outcomes for income only, all other socioeconomic variables suggest that an egalitarian relationship may be the most stable. There is little change in the frailty variable, suggesting that the variables we are using are uncorrelated with the stable, unmeasured traits captured by the frailty variable.

**Latent Class**

Number of Classes	AIC	BIC	Entropy
2	3637.533	3853.079	0.89115
3	2581.595	2908.18	0.89351
4	2388.493	2826.117	0.870832
5	1833.063	2381.725	0.823747
6	1744.057	2403.754	0.8116

Table 4-5 shows the indicators of fit for the Latent Class analysis by class. Entropy is a measure of how distinct the classes are (higher is better), while AIC and BIC are both indicators of model fit (lower is better). A 4 class solution has a better entropy score, but the classes that were generated were less theoretically distinct. Therefore, a 5 class solution presented the best choice based on indicators of fit and producing theoretically useful classes.

		Table 4-6: Item Response Probability for a Five Latent Class Model					
		Class 1	Class 2	Class 3	Class 4	Class 5	
Any Shared Pregnancies	No	<b>0.99863323</b>	0.02669983	<b>0.92233121</b>	<b>0.33585205</b>	0.19289226	
	Yes	0.00136677	<b>0.97330017</b>	0.07766879	<b>0.66414795</b>	<b>0.80710774</b>	
Mean Cohabitation	0-6 months	0.21498879	0.00020157	0.1408274	<b>0.43209225</b>	0.03423716	
	6 to 12 months	0.20818367	0.06050707	<b>0.30741934</b>	0.24898045	0.23729961	
	12 to 18 months	0.15237127	0.08195898	0.27097137	0.1678814	0.19953023	
	18 to 24 months	0.10392349	0.1215112	0.15726561	0.04557041	0.20105922	
	24+ months	<b>0.32053277</b>	<b>0.73582119</b>	0.12351629	0.10547548	<b>0.32787377</b>	
Number of Shared children	0	<b>0.93404722</b>	0.00199415	<b>0.98165412</b>	<b>0.68151654</b>	0.05200164	
	1	0.05551223	<b>0.63706515</b>	0.0182876	<b>0.30933129</b>	<b>0.56339887</b>	
	2	0.00822945	0.2676323	0.00004213	0.0091323	0.27589251	
	3+	0.0022111	0.0933084	0.00001615	0.00001988	0.10870699	
Number of Non Shared Children	0	<b>0.86481173</b>	<b>0.88124958</b>	<b>0.71111514</b>	<b>0.85300949</b>	0.19597717	
	1	0.08789406	0.09259626	0.15302251	0.14057318	<b>0.35686765</b>	
	2	0.03301351	0.02273115	0.07345134	0.00625359	0.24614884	
	3+	0.0142807	0.00342301	0.062411	0.00016374	0.20100635	
Number of Cohabitation Relationships	1	<b>0.89220482</b>	<b>0.76354836</b>	0.00185337	<b>0.85551557</b>	0.00065405	
	2	0.10764399	0.23580805	<b>0.55834129</b>	0.14422624	<b>0.48989324</b>	
	3+	0.00015119	0.00064359	<b>0.43980534</b>	0.00025819	<b>0.50945271</b>	
Start Age Category	13-18	0.024773	0.13260784	0.15538934	0.12305168	0.2876846	
	19/21	0.21426434	<b>0.35997952</b>	<b>0.53873853</b>	<b>0.47368345</b>	<b>0.56030815</b>	
	22/24	<b>0.31439252</b>	<b>0.31359067</b>	0.26359436	0.2698596	0.12070586	
	25/36	<b>0.44657014</b>	0.19382197	0.04227777	0.13340528	0.0313014	
N=		5073	2436	896	833	287	621

Class 1 is characterized by very low levels of fertility, a late starting age and a high probability of only having one relationship. As this closely mirrors what we would consider a traditional ‘steady’ relationship, I am calling this class the Traditional Relationship Class. Class 2 is characterized by extremely high levels of shared fertility (all but 5 respondents have a shared child present at last observation) and the longest cohabitations of any class. As these respondents spend long periods raising shared children, I am calling this class the Shared Family Class. Respondents in class 3 have a very high probability of multiple relationships, but a low probability of fertility events; thus I am calling them the Multiple Relationship Class.

Respondents in Class 4 had a high probability of shared fertility events and short cohabitations. Additional analysis (see appendix for details) revealed that fertility events often coincided with relationship transitions, thus I am calling this group the Fertility Driven Transitions Class. Class 5 is characterized by high levels of shared and non-shared fertility along with multiple relationships. As there is a high level of non-shared and blended families, I am calling this class the Multiple Partner Fertility Class.

Table 4-7: Cohabitation outcomes by Class

a: Outcome by individual cohabitation spell						
	Traditional	Shared Family	Multiple Relationship	Fertility Driven	Multi-partner Fertility	Total
Still Cohab	24.08	26.21	10.77	0.32	13.93	17.63
Dissolved	36.99	39.76	73.94	26.21	76.32	55.57
Married	38.93	34.03	15.29	73.46	9.75	26.8
Total	2625	1099	2126	309	1744	7903
b: Cumulative outcome for individual respondent at final observation						
	Traditional	Shared Family	Multiple Relationship	Fertility Driven	Multi-partner Fertility	Total
Still Cohab	25.94	32.14	27.49	0.35	39.13	27.46
Single, Never Married	26.35	22.88	27.61	14.29	29.95	25.70
Married from Cohab	41.95	41.74	39.02	78.75	27.38	41.73
Married From Single	5.75	3.24	5.88	6.62	3.54	5.11
Total	2,436	896	833	287	621	5,073

Table 4-7 shows a respondent's outcomes by both individual relationship (4-7a) and their final outcome at the last wave of data (4-7b). The fertility driven transition class had the highest rate of marriage, measured by both individual relationship and relationship history, with 85% of respondents marrying (79% marrying from cohabitation and 6% marrying from single) by their last available observation. This is almost double the marriage rate of the Traditional, Shared family and Multiple Relationship Classes which have between 48-45% of respondents marrying by the last observation. Though these three classes have similar overall outcomes, the Multiple Relationship class has a much lower chance of marriage from any one relationship, with only 15% of relationships ending in marriage. The Multi-partner Fertility class has the lowest marriage rates for both individual relationship and across their relationship history. However, they were

also the most likely to still be cohabiting at the end of the observation window; 70% of respondents from this class were in a co-residential relationship at last observation.

When looking at the predictors of latent class membership, there are a few interesting commonalities (see appendix for full results). For family of origin variables the Traditional class and Fertility Driven Transition Class are more likely to be from a two-parent biological family, while all other classes have higher probabilities of all other family forms. The two classes that involve long periods of child rearing during cohabitation have a higher probability of non-Hispanic Black and Hispanic respondents. Interestingly, religiosity has no effect on class membership probabilities, perhaps as those with the highest religiosity have selected out of cohabitation altogether. Having an educated mother increases the likelihood of membership in the Traditional class compared to all other classes.

While socioeconomic variables couldn't be included in the prediction equation as they are occurring contemporaneously with relationship formation, looking at the different levels of socioeconomic variables at relationship start is quite illustrative. The traditional class both starts and ends with high levels of socioeconomic resources. Over 86% have a high school degree and 21% have a college degree at the start of their first relationship. They also have a high starting income, when combined with their high start age, suggest that this group is well on their way to establishing careers when they first cohabit. This group also had high levels of gender egalitarianism, with high levels of education and employment for female partners. This contrasts with the Shared Fertility Class, which had more traditional gender roles, with higher levels of male employment, education and income. As these families are engaged in long term child-rearing, this finding is not unexpected.

The most interesting group in this analysis is the Multiple Relationship group. At the start of their first relationship, they have among the lowest scores on our socioeconomic variables, yet, through their relationship history, they rise to among the highest scores at the last



observation. Upward mobility is clearly important for this class. This is further confirmed by sub-analyses that show there is a large difference in income, education and work status for those relationships that will transition to marriage compared to the relationships that will end in dissolution. This gap is present in both starting and ending variables, suggesting that raw levels of socioeconomic indicators play a large part in relationship outcomes for this group. There are not many findings of interest for the Fertility Driven transition group as their relationships are so short. The Multi-partner fertility group is the most economically disadvantaged from all our groups with the lowest education, highest proportion of people not in the labor force/unemployed and lowest starting incomes. While these variables do rise as the relationship history progresses, we do not see the sharp rises as in the other classes, suggesting long term economic disadvantage.

By Class Event History

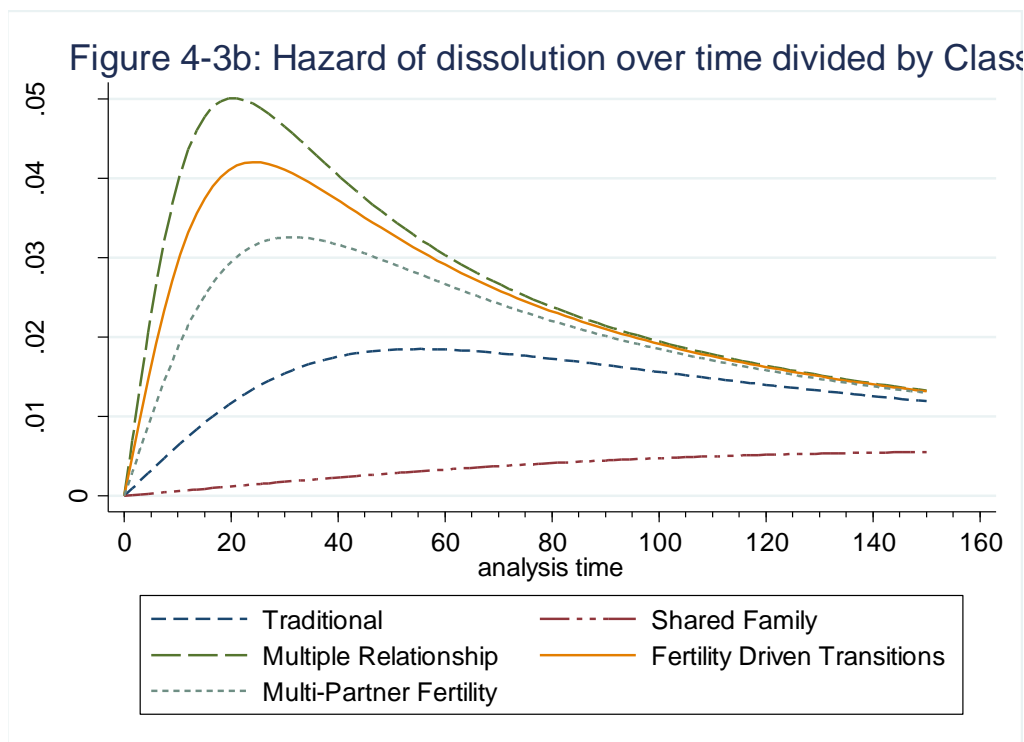
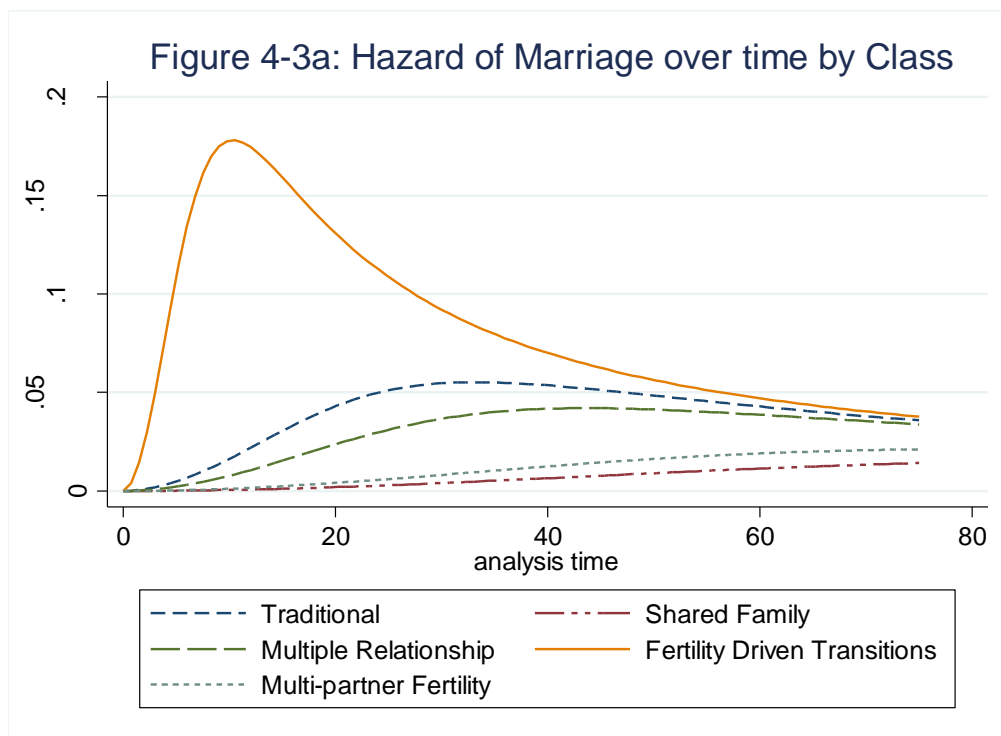


Figure 4-3a shows the hazard of marriage over time by class. While the fertility driven transition class is a clear outlier, there is meaningful subgroups among the other classes. The traditional and multiple relationship classes have a similar trajectory, while the two classes that involve long-term child-rearing arrangements also have a similar trajectory. Note that we do not get similar grouping for dissolution hazard over time (Figure 4-3b).

Among the traditional class, educational achievement provides a protective effect against dissolution, with male and female education having a unique and additive protective effect, the only group for which we find this. With income, we see a fairly consistent pattern where dynamic income (household, male and female) increases the time to both dissolution and marriage. Most of these variables have a negative squared term<sup>11</sup>, indicating this effect weakens at higher income levels. Household income at the start of the relationship reduces the time to marriage, with this effect being driven by male income. This effect is linear. Looking at the relative variables, we see that relationships at income parity have a shorter time to dissolution. Thus, this class is strongly effected by socioeconomic attainment, especially among female partners compared to other classes.

The effect of socioeconomic variables for the Shared Family class is weaker, with only household income having a protective effect against dissolution in our respondent only model. Looking at our gendered model, the male partner having a high school education decreases time to marriage, while a college degree increases time to dissolution. The male partner working full time protects against dissolution, while part time employment increases time until marriage. Both male and female income protect against dissolution (effect diminishes at higher incomes), with no effect for starting income. Relative variables present a conflicted picture, with the male having more education associated with quicker time to dissolution, higher male income providing a protective effect against dissolution and the female partner having a higher starting income being

---

<sup>11</sup> The effect of male income on marriage hazard is the exception.

associated with decreased time to dissolution. However, the defining characteristic of this class is the fertility variables, with shared pregnancy and shared children providing strong protective effects against dissolution and decreasing the time to marriage. There is also a strong protective effect against dissolution when a non-shared child is present, however those in a blended family have a significantly shorter time to dissolution.

Surprisingly, for a class that seems focused on socioeconomic mobility, there is little effect of education for the multiple relationship class. In our respondent only model obtaining a bachelor's degree provides a protective effect against dissolution, yet no other education effects are found. Dynamic income (household, male and female) lengthens time to dissolution, though this effect weakens at higher income amounts. Starting income plays a larger role compared to all other classes, with starting household income decreasing time to marriage and increasing time to dissolution, as does male partner's starting income. Female starting income has a protective effect against dissolution. Note that all these effects get weaker as income becomes larger. For relative variables, there is an increased time to dissolution when male income is higher and when male starting income is higher. Thus, it appears that income (and especially starting income) is the key socioeconomic indicator amongst this group.

As expected, fertility event play a large role in the fertility transitions class. There is little effect for socioeconomic variables, with no improvement to model fit across any of the model specifications. Shared pregnancy significantly reduces time to marriage while having a shared child present reduces time to marriage and increases time to dissolution.

In the multi-partner fertility class, there is clear evidence that this group is at an economic disadvantage. At the last available observation, just under 70% of respondents had a high school degree, with 2% obtaining a college degree. Income at start of relationship and last observation are among the lowest, along with the percentage of people in full time employment. Very few economic variables are significant in the respondent only model. Having a high school degree

decreases time to marriage while household income has a protective effect against dissolution. All but one (blended family) of our fertility variables provide protective effects against dissolution while having a non-shared child present decreases time to marriage. Gendered socioeconomic variables present a confused picture, with male education decreasing time to dissolution, while full time work and income increase time to dissolution. It may be that as these couples are supporting children, it is the ability to support a family that matters, rather than indicators of future economic potential. This is supported by the relative findings, where higher male income increases time to dissolution, while have more education or working less hours than the female partner decreases time to dissolution.

## **Chapter 5**

### **Discussion**

This dissertation set out to examine how the inclusion of multiple cohabitations can enhance our knowledge of the cohabitation process among young adults. To answer this question, I took three inter-related approaches. The first portion of the analysis focused upon descriptive statistics and the latent classes created from them. Next, I focused upon creating an event history model that assessed the impact of various predictors on transition timing as well as assessing their impact against an unmeasured frailty variable that captures persistent, but unmeasured, personal traits. The final part combined the two analysis approaches and ran the event history models within the latent classes.

The descriptives alone provided a much different picture of cohabitation than has previously been seen in the literature. The only previous study to examine multiple cohabitations reported that 13% of respondents in the 18-34 age group had cohabited multiple times, 38% cohabited once and 49% had never cohabited (Lichter, Turner and Sassler 2010). I found that 43% had never cohabited, 36% cohabited once and 21% had cohabited multiple times. This figure underestimates the rates of cohabitation as it does not account for those who experienced attrition from the dataset before their experiences were recorded. Thus, we can conservatively say that one fifth of young American will experience multiple cohabitations before their first marriage.

There has been a wide range of variance in the literature when estimating the length of cohabitation as well as the outcome of the relationships. A large part of the variance is due to sampling design and cohort effects so it is hard to make a direct comparison to previous findings

as we are not generalizing to the same populations. Thus, I have found a much higher ratio of dissolutions to marriages than results based on older data and cohorts (Brown 2000, Lichter, Qian and Mellott 2006, Manning and Smock 1995, Sanchez, Manning and Smock 1998, Smock and Manning 1997), but obtain a similar ratio to studies that have a closer population universe (Schoen, Landale and Daniels 2007). These results indicate that for recent young adults, cohabitation has become more unstable than it was for previous cohorts.

However, leveraging the data from multiple cohabitations allows some interesting conclusions. It was found that there is a distinct difference in the first relationship between those who would only have one relationship total, and those who would go onto multiple relationships. That is, the first relationship of someone who would eventually have three relationships would be significantly shorter than the first relationship of someone who would have two cohabitation relationships. The more relationships a person would eventually have, the shorter the first relationship would be. And as a person progressed into higher order relationships, the relationships would lengthen. When we combine this with overall marriage rates (by person, not by relationship) with 46% married (compared to 27% still cohabitating and 26% not in any relationship), it seems that a not insignificant proportion of young adults are using multiple cohabitations as a vehicle for gaining relationship skills, or non-relationship specific capital, that they did not have upon embarking on their relationship pathway. Alternatively, it could be that respondents are emotionally maturing and it is not multiple relationships that make a person more susceptible to marriage, but simply that they are reaching an age where they are more likely to marry.

This observation leads to the consideration of the different pathways young adults take, which I have conceptualized in this dissertation as latent classes. I develop distinct, and conceptually interesting, cohabitation classes that I represented as the Traditional, Shared Family, Multiple Relationship, Fertility Driven and Multi-partner Fertility classes.

The traditional class is the largest class and the most identifiable class from the literature. This class is very unlikely to have children, have the second longest cohabitations, start their cohabitations at a relatively older age, highly educated and are relatively stable economically before entering into a cohabitation. Despite being the dominant group, they are the hardest to theorize about as we are missing vital information in this study: relationship dynamics and relationship intentions. We have strong evidence that relationship intentions influence the likelihood of transitioning into marriage and that a large portion of cohabitators begin their relationship with an intention to marry (Brown 2000, Guzzo 2009, Manning and Cohen 2012). It is clear from our analysis that those couples who start their relationship on a strong financial base have a shorter time to marriage and increased time to dissolution and it is reasonable to hypothesize that those who have more money are more likely to move in together for relationship based reasons, as opposed to financial considerations accelerating the cohabitation decision.

All the respondents in the Shared Family class had a shared child living with them for at least a part of their cohabitation relationship. When combined with the fact that this class has the longest cohabitations of any class, it may be tempting to think of this class as representing a retreat from traditional marriage, but there are findings that suggest that this would be a mischaracterization. We see average rates of marriage in this class (same as the Traditional Class and the full sample) and these couples are significantly more traditional in their (economic) gender roles than almost all other classes when looking at the ratio of female income to male income (also the ratio of employment) at both the start and the end of the relationship. Male income relative to female was also a predictor in lessening the time to marriage.

There is thus strong evidence that this class values the male earning capacity and marriage may be contingent on the male partner fulfilling this role. This matches studies that have found this to be important to cohabitators (Smock, Manning and Porter 2005) and that marriage has a strong symbolic meaning for these parents (Reed 2006). This finding is also contrary to



traditional exchange theory, as there should be a high level of motivation to secure the relationship specific capital (the child), and to create a barrier to losing the specialized skills of the other partner, but the symbolic meaning of marriage is seemingly more important to this group.

I found interesting commonalities between the Shared Family group and the Traditional group when it came to predicting class membership. These two classes had the longest and most stable cohabitation relationships. It was found that coming from a two-biological parent household increased the likelihood of membership in these two groups. This supports Amato's (1996) theory of the intergenerational transmission of relationship skills, with a stable family background promoting the chances of a stable relationship pathway. This effect was mainly found at the selection stage; there was little influence on relationship timings.

One of the most interesting classes was the Multiple Relationship class. This class moved in and out of relationships quickly and would be defined as serial cohabitators. What was unexpected though, was the extent to which this group was dedicated to social mobility. Between their first data point and their last data point, they had the highest rise in college education, highest transitions to full time work, and largest increase in all income categories. Most interesting was the large gaps in starting income between those relationships that would dissolve and those who would go onto marry (\$10,000 and greater depending on relationship order) and the steep rise in income that occurred in the relationships that end in marriage. Relationships in this group were very egalitarian, with the strongest relationships were both couples are working full time and when both couples are earning.

The high rate of churn in these relationships, coupled with strong economic findings, suggest that these couples are likely cohabiting out of economic necessity, but a key finding disputes this, namely that those in the Multiple Relationship class have the longest gaps between cohabitation, almost 2 years (22.5 months). This suggests that their rising social mobility is

punctuated by short, unsuccessful cohabitations with long periods of singledom. Thus, rather than being a relationship format that enables part of their social mobility, cohabitation is a rather sporadic affair. This contrasts with Sassler's (2004) finding with a similar population, where money and saving on rent were cited as the driving motivators.

There is merit to the theory that increased socioeconomic resources changes the pool of potential partners and allows a lengthier search process (Oppenheimer 1988). While we cannot examine the pool or partners with the current data, we have direct information on how long a respondent is between relationships, which can be conceptualized as search time. Those relationships that end in marriage are preceded (on average) by a 25% increase in the time spent single, lending support to the notion that a longer search yields a better outcome.

The Fertility Driven class is the smallest of all cohabitation classes and spend the least amount of time in cohabitation relationships. All but 8 of the respondents in this class either had a shared child at the start of the relationship, entered the relationship while pregnant while a large majority transitioned from cohabitation while pregnant. The class had the largest proportion of respondent's marrying by a large margin. It would be helpful to have relationship intention information, but it seems likely that these fertility decisions and relationship decisions are closely intertwined and cohabitation is only intended to be a short term relationship form on the way to marriage.

The Multiple Partner Fertility class starts from a position of disadvantage, but does not experience the same level of social mobility that the Multiple Relationship class does. This class also faces the greatest challenges to a successful transition to marriage than any other class. This class has the youngest average starting age of any class and the youngest age when they have their first child. Transitions into cohabitations happen quicker than in the Multiple Relationship group, but respondents still spend an average of a year and half between cohabitations. Although

marriage is much rarer in this group, it is clear that a longer gap between relationships is associated with marriage as compared to dissolution.

The two classes that involved long periods of child bearing in a cohabitation relationship (Shared Family and Multiple Partner Fertility) were more likely to contain minority respondents compared to non-Hispanic whites. Hispanics had slightly higher odds of being in the Shared Family category as compared to the MPF class, while non-Hispanic Blacks had about an equal chance of both.

The disadvantage of minority respondents, especially non-Hispanic Blacks, were found throughout the study. Non-Hispanic Blacks had a longer time to marriage than non-Hispanic whites in the full sample and all but one class (MPF being the exception) and a short time to dissolution in the full sample and all but two classes (Multiple Relationships and Fertility Driven transitions are the exceptions). As noted above, there was very little change in coefficients as explanatory variables were added, suggesting that this effect has a large, unmeasured structural component. Hispanics had a longer time to marriage in the Shared Family class, a result that drives the significant coefficient in the full sample as well. As there is no effect upon dissolution timing, this suggests that Hispanics are content to raise shared children in a cohabitation relationship as compared to other races. These racial findings conformed to previous studies (Guzzo 2009, Manning and Smock 1995) and were not unexpected.

However, it was unexpected to find that religiosity did not play any effect in selection respondents into classes. This is contrary to the literature (Amato et al. 2008, Eggebeen and Dew 2009), but it is highly likely that those with high religiosity scores would forgo cohabitation completely in favor of direct marriage. Interestingly, there were some effects upon transition hazards, with higher religiosity score decreasing time to marriage in the Traditional and Multiple relationship classes, while increasing time to dissolution for the Multiple relationship class.

The frailty component remained remarkably stable across models for our sample, which suggests that there is little overlap between our tested predictors and the vector of unmeasured, stable covariates that the frailty represents. In the by class analysis, we see some suppression effects by relationship number for classes 2, 3, and 5 and fertility variables for class 4. Overall, our frailty component generally had the same predictive power as a vector of our explained variables. Thus, it is likely that our frailty variable is capturing personality or the psychological makeup of an individual. This may include aspects such as temperament, propensity to violence, adaptability, and attachment. Unfortunately, the current data has very little personality measurements, but this is a promising area for future research.

The suppression effect between relationship number and frailty lends credence to the hypothesis that some respondents may gain relationship and interpersonal skills through experience of cohabitations. Interestingly, the main effect was seen for the marriage equation, suggesting that improving personal traits encourages marriage timing, but has a smaller effect upon preventing dissolution. The mechanism behind this effect cannot be explored with the current data, but is an intriguing finding that encourages further research.

This dissertation uncovered numerous results that were unexpected or contrary to the stated hypotheses. Perhaps most surprising was the addition of partner information and relative variables did not appreciably improve predictive power throughout our models, although it did improve theoretical clarity. Rather, it was found that respondent variables alone were sufficient to predict the characteristics of the partner. This was especially visible among the Multiple Relationship group where a respondent starting a new relationship would start that relationship with a partner that had very similar starting income.

Dyadic theories are based upon the interplay between two partners, yet there was little evidence that incorporating partner information lent new information to transition timing. This

was especially applicable to our financial hypotheses and exchange theory in general. There was no evidence that couples were moving to secure a claim on a partner's income or that equal incomes would provide economic freedom to leave. Rather, strong effects of starting economic variables were found, suggesting that respondents with improved economic characteristics had access to a different partner pool.

It was also found that a longer gap between relationships was associated with a higher chance of marriage. While this finding is, by necessity, to those with multiple relationships it is highly likely that those in the Traditional Class, who form their first relationship when relatively old, are engaging in a lengthy *latent* search. That is, even if they are not actively evaluating potential partners, it is highly likely they are still forming opinions about what they may or may not want in a partner and also what they can offer a partner (Oppenheimer 1988). Thus a long gap before any relationships may be analogous to a lengthy gap between relationships in producing a higher quality match and subsequent marriage.

Also of note, is the fact the same hazard distribution was the best fit for all outcomes across all groups. It was predicted that different subgroups would have different transition patterns, but there was remarkable similarity in the hazard distributions. The pattern of transition hazard is a rise to a peak followed by a decline that then levels off. The location of the peak and the rate of rise and fall from this peak differ, but this general pattern holds regardless of model or class specification.

Perhaps the most interesting finding was the interplay between fertility and transitions. The two classes with the highest proportion of pregnancies were the two classes who spent the longest average time in cohabitation relationships (Shared family and Multi Partner fertility). The only class that closely intertwined pregnancy/fertility events with marriage was also the smallest class and it is expected that this class will continue to shrink as we know that childbearing in cohabitation is becoming more normative (Bumpass and Lu 2000). There is strong support for the

notion that unmarried parents, or soon to be parents, are choosing cohabitation as their preferred relationship form (Reed 2006).

## Chapter 6

### Conclusion

This dissertation set out to explore the cohabitation paradox, why do so many cohabitations end in dissolution when marriage is by far the stated goal. It was hypothesized that the missing piece of the puzzle was partner information, however, this was not borne out by the data. Although using partner information allowed a clearer picture of how gender roles operated in a cohabitation, there was no increase in predictive power by including these variables.

It was also hypothesized that including multiple cohabitations by a single individual, we would gain greater insight into the cohabitation process. While transition patterns by higher order relationships did not change much, they allowed the construction of relationship pathways, or latent classes. By conducting latent class analysis, we were able to find 5 very distinct pathways respondents followed on their way to marriage, and thus were able to explore the very different functions cohabitation served for different populations.

Our findings provide qualified support for marital search theory, with a longer time between relationships being associated with a higher chance of marriage for groups with multiple cohabitations. We also saw that starting income played a large role in a successful transition to marriage, which I explained through increasing the available pool of potential partners. However, we are only able to claim qualified support due to a major data limitation – our lack of knowledge about courtship behavior that occurs before the first cohabitation. While we can logically argue that a person that has their first cohabitation at age 26 had a long search process than a person who cohabited at age 19, we have no way of quantifying how long either individual spent in an active partner search. However, I can state that among those who cohabited multiple times, a longer gap between relationships was associated with a higher chance of marriage.

The findings also provide qualified support for the enduring traits hypothesis. The frailty variables accounts for a significant portion of variance and is quite robust across model specifications. We also find strong associations between background variables and the likelihood of class membership, with weaker to no effect for these variables when it comes to transition timing (with the exception of race). However, the actual enduring traits that a person may possess are purely speculative, as we have no direct measures of personality, temperament, attachment style and the like which limits the conclusions we can draw.

These two theories are not mutually exclusive as the enduring traits of a respondent are going to define the parameters of a partner search. These traits, plus dynamic traits such as income, education and fertility, are going to define the amount of resources a person can dedicate to the search as well as define the desired (and minimally acceptable) traits of a perspective partner (Oppenheimer 1988). The interplay of these factors give rise to the various classes we observe; for example the Traditional Class focuses upon gaining education and gaining income before searching out a partner who possess the same attributes for an egalitarian relationship. Whereas respondents in the shared family class is less concerned with education and egalitarianism, but with searching out a partner with whom to raise a child with while the male partner establishes himself in the provider role before marriage.

This dissertation also contribute to the relationship literature with two main methodological contributions. The first contribution is the use of latent classes as a data reduction technique. Although previous studies have used latent class analysis to map relationship pathways (Amato et al. 2008), I have extended this technique through the use of multiple relationships and multiple fertility events to create theoretically distinct classes suitable for subsequent analysis. The second contribution is the use of a frailty variable which allowed the incorporation of multiple relationships within the same person without introducing correlation bias (Kalbfleisch and Prentice 1980). This technique has not been used before to study multiple relationship events,



but it presents an elegant solution with strong predictive power with the frailty variable comprising half of the explained variance in transition timing.

As mentioned above, this dissertation has two main limitations. First, while we have a wealth of information on socioeconomic status and the more tangible variables, we have extremely limited information personality characteristics and relationship intentions. While I have made inferences from the data we have available, these are speculative and may be open to other interpretations. The second limitation is that this dissertation is restricted to cohabitation experiences and thus does not represent a full relationship pathway. Marriage is, by methodological necessity, treated as a censoring event and thus we do not know if a marriage will last or the level of marital happiness that results. There is strong suspicion that even though the Multiple relationship group, for example, have an average rate of marriage by the end of their cohabitation pathway, it is likely that they will be more prone to divorce through the experience of multiple partners (Teachman 2003). However, it is hoped that this dissertation will stimulate further research on these pathways and lead to greater understanding of the interplay between relationship experiences.

In conclusion, I have presented strong evidence that cohabitation experiences are heterogeneous across a nationally representative population. I also presented evidence that enduring traits place respondents on a certain relationship pathway from the beginning, rather than divergent pathways branching from a common starting point. It is my hope that these findings spur research into relationship pathways and how they serve (and fail to serve) the needs of an individual as focus upon the “average” cohabitation has obscured these pathways. By identifying the unique challenges that a certain pathway contains, we are better able to support individuals as they face these challenges.

## References

- Agresti, Alan. 1990. *Categorical Data Analysis*. New York: John Wiley and Sons.
- Akaike, Hirotugu. 1974. "A New Look at the Statistical Model Identification." *IEEE Transactions on Automatic Control* 19(6):716-23.
- Allison, Paul D. 2002. *Missing Data*, Edited by M. S. Lewis-Beck. Thousand Oaks, CA: Sage.
- Amato, Paul R. 1996. "Explaining the Intergenerational Transmission of Divorce." *Journal of Marriage and Family* 58(3):628-40.
- Amato, Paul R., Nancy S. Landale, Tara C. Havasevich-Brooks, Alan Booth, David J. Eggebeen, Robert Schoen and Susan M. McHale. 2008. "Precursors of Young Women's Family Formation Pathways." *Journal of Marriage and Family* 70(5):1271-86.
- Asparouhov, Tihomir and Bengt Muthen. 2010. "Multiple Imputation with Mplus." *MPlus Web Notes*.
- Avellar, Sarah and Pamela J. Smock. 2005. "The Economic Consequences of the Dissolution of Cohabiting Unions." *Journal of Marriage and Family* 67(2):315-27.
- Axinn, William G. and Arland Thornton. 1992. "The Relation between Cohabitation and Divorce: Selectivity or Casual Influence?". *Demography* 29:357-74.
- Becker, Gary S. 1973. "A Theory of Marriage: Part I." *The Journal of Political Economy* 81(4):813-46.
- Becker, Gary S. 1974. "A Theory of Marriage: Part II." *The Journal of Political Economy* 82(2):S11-S26.
- Blau, Peter M. 1964. *Exchange and Power in Social Life*. New York: John Wiley and Sons.
- Blumstein, P. and P. Schwartz. 1983. *American Couples: Money Work Sex*. New York: William Morrow.

- Box-Steffensmeier, Janet M. and Bradford S. Jones. 2004. *Event History Modeling: A Guide for Social Scientists*. New York: Cambridge University Press.
- Brines, Julie and Kara Joyner. 1999. "The Ties That Bind: Principles of Cohesion in Cohabitation and Marriage." *American Sociological Review* 64(3):333-55.
- Brown, Susan L. 2000. "Union Transitions among Cohabitators: The Significance of Relationship Assessments and Expectations." *Journal of Marriage and Family* 62:833-46.
- Brown, Susan L. 2004. "Moving from Cohabitation to Marriage: Effects on Relationship Quality." *Social science research* 33(1):1-19.
- Brown, Susan L., Anastasia R. Snyder and Erin P. Condo. 2006. "Residential Differences in Cohabitators' Union Transitions." *Rural Sociology* 71(2):311-34.
- Bumpass, L. L. and Hsien-Hen Lu. 2000. "Trends in Cohabitation and Implications for Children's Family Contexts in the United States." *Population Studies* 54(1):29-41.
- Carlson, Marcia, Sara McLanahan and Paula England. 2004. "Union Formation in Fragile Families." *Demography* 41(2):237-61.
- Cherlin, Andrew. 2009. *The Marriage-Go-Round: The State of Marriage and the Family in America Today*. New York: Alfred A. Knopf.
- Cherlin, Andrew J. 2004. "The Deinstitutionalization of American Marriage." *Journal of Marriage and Family* 66(4):848-61.
- Clarkberg, Marin. 1999. "The Price of Partnering: The Role of Economic Well-Being in Young Adults' First Union Experiences." *Social Forces* 77(3):945-68.
- Clayton, Richard R. and Harwin L. Voss. 1977. "Shacking Up: Cohabitation in the 1970s." *Journal of Marriage and Family* 39(2):273-83.
- Cleves, Mario, Roberto G. Gutierrez, William Gould and Yulia V. Marchenko. 2010. *An Introduction to Survival Analysis Using Stata*. College Station: Stata Press.

- Collins, Linda M. and Stephanie T Lanza. 2010. *Latent Class and Transition Analysis*. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Conger, R. D., M. Cui, C. M. Bryant and Glen H. Jr. Elder. 2000. "Competence in Early Adult Romantic Relationships: A Developmental Perspective on Family Influences." *Journal of Personality and Social Psychology* 79(2):224-37.
- Crowder, Martin J. 2001. *Classical Competing Risks*. Boca Raton: Chapman and Hall.
- Cunningham, Mick and Arland Thornton. 2005. "The Influence of Union Transitions on White Adults' Attitudes toward Cohabitation." *Journal of Marriage and Family* 67(3):710-20.
- DeMaris, Alfred and William MacDonald. 1993. "Premarital Cohabitation and Marital Instability: A Test of the Unconventionality Hypothesis." *Journal of Marriage and Family* 55(2):399-407.
- EGgebeen, David and Jeffrey Dew. 2009. "The Role of Religion in Adolescence for Family Formation in Young Adulthood." *Journal of Marriage and Family* 71(1):108-21.
- Gibson-Davis, Christina M., Kathryn Edin and Sara McLanahan. 2005. "High Hopes but Even Higher Expectations: The Retreat from Marriage among Low-Income Couples." *Journal of Marriage and Family* 67(5):1301-12.
- Giddens, Anthony. 1992. *The Transformation of Intimacy*. Stanford: Stanford University Press.
- Guzzo, Karen Benjamin. 2009. "Marital Intentions and the Stability of First Cohabitations." *Journal of Family Issues* 30(2):179-205.
- Hohmann-Marriott, Bryndl E. 2006. "Shared Beliefs and the Union Stability of Married and Cohabiting Couples." *Journal of Marriage and Family* 68(4):1015-28.
- Homans, George C. 1958. "Social Behavior as Exchange." *American Journal of Sociology* 63(6):597-606.
- James, Spencer Lyle and Brett Aaron Beattie. 2012. "Premarital Cohabitation and Marital Quality: A Reassessment." *Social Forces* 91(2):635-62.

- Kalbfleisch, J. D. and R.L. Prentice. 1980. *The Statistical Analysis of Failure Time Data*. New York: John Wiley and Sons.
- Kamp Dush, Claire M., Catherine L. Cohan and Paul R. Amato. 2003. "The Relationship between Cohabitation and Marital Quality and Stability: Change across Cohorts?". *Journal of Marriage and Family* 65(3):539-49.
- King, Valarie and Mindy E. Scott. 2005. "A Comparison of Cohabiting Relationships among Older and Younger Adults." *Journal of Marriage and Family* 67(2):271-85.
- Lareau, Annette. 2003. *Unequal Childhoods: Class, Race, and Family Life*. Berkeley: University of California Press.
- Lichter, Daniel T., Zhenchao Qian and Leanna M. Mellott. 2006. "Marriage or Dissolution? Union Transitions among Poor Cohabiting Women." *Demography* 43(2):223-40.
- Lichter, Daniel T., Richard N. Turner and Sharon Sassler. 2010. "National Estimates of the Rise in Serial Cohabitation." *Social science research* 39(5):754-65.
- Manning, Wendy D. and Pamela J. Smock. 1995. "Why Marry? Race and the Transition to Marriage among Cohabitors." *Demography* 32(4):509-20.
- Manning, Wendy D. 2004. "Children and the Stability of Cohabiting Couples." *Journal of Marriage and Family* 66(3):674-89.
- Manning, Wendy D. and Jessica A. Cohen. 2012. "Premarital Cohabitation and Marital Dissolution: An Examination of Recent Marriages." *Journal of Marriage and Family* 74(2):377-78.
- Martin, Paige D., Gerald Specter, Don Martin and Maggie Martin. 2003. "Expressed Attitudes of Adolescents toward Marriage and Family Life." *Adolescence* 38(150):359-67.
- McGinnis, Sandra L. 2003. "Cohabiting, Dating, and Perceived Costs of Marriage: A Model of Marriage Entry." *Journal of Marriage and the Family* 65(1):105-16.

- Meira-Machado, Luis, Jacobo de Una-Alvarez and Carmen Cadarso-Suarez. 2009. "Multi-State Models for the Analysis of Time-to-Event Data." *Statistical Methods in Medical Research* 18(2):195-22.
- Nylund, Karen L., Tihomir Asparouhov and Bengt O. Muthen. 2007. "Deciding on the Number of Classes in Latent Class Analysis and Growth Mixture Modeling: A Monte Carlo Simulation Study." *Structural Equation Modeling* 14(4):535-69.
- Oppenheimer, Valerie Kincade. 1988. "A Theory of Marriage Timing." *The American Journal of Sociology* 94(3):563-91.
- Raley, R. Kelly. 1996. "A Shortage of Marriageable Men? A Note on the Role of Cohabitation in Black-White Differences in Marriage Rates." *American Sociological Review* 61(6):973-83.
- Raley, R. Kelly and Elizabeth Wildsmith. 2004. "Cohabitation and Children's Family Instability." *Journal of Marriage and Family* 66(1):210-19.
- Reed, Joanna M. 2006. "Not Crossing the "Extra Line": How Cohabitors with Children View Their Unions." *Journal of Marriage and Family* 68(5):1117-31.
- Reichman, Nancy E., Julien O. Teitler, Irwin Garfinkel and Sara S. McLanahan. 2001. "Fragile Families: Sample and Design." *Children and Youth Services Review* 23(4):303-26.
- Sanchez, Laura Ann, Wendy D. Manning and Pamela J. Smock. 1998. "Sex-Specialized or Collaborative Mate Selection? Union Transitions among Cohabitors." *Social science research* 27:280-304.
- Sassler, Sharon and Robert Schoen. 1999. "The Effect of Attitudes and Economic Activity on Marriage." *Journal of Marriage & the Family* 61(1):147-59.
- Sassler, Sharon. 2004. "The Process of Entering into Cohabiting Unions." *Journal of Marriage and Family* 66(2):491-505.

- Sassler, Sharon and Frances Goldscheider. 2004. "Revisiting Jane Austen's Theory of Marriage Timing: Changes in Union Formation among American Men in the Late 20th Century." *Journal of Family Issues* 25(2):139-66.
- Schoen, Robert, Nancy S. Landale and Kimberly Daniels. 2007. "Family Transitions in Young Adulthood." *Demography* 44(4):807-20.
- Schwarz, Gideon E. 1978. "Estimating the Dimension of a Model." *Annals of Statistics* 6(2):461-64.
- Smock, P. J. 2000. "Cohabitation in the United States: An Appraisal of Research Themes, Findings, and Implications." *Annual Review of Sociology* 26:1-20.
- Smock, Pamela J. and Wendy D. Manning. 1997. "Cohabiting Partners' Economic Circumstances and Marriage." *Demography* 34(3).
- Smock, Pamela J., Wendy D. Manning and Meredith Porter. 2005. "'Everything's There except Money': How Money Shapes Decisions to Marry among Cohabitators." *Journal of Marriage and Family* 67(3):680-96.
- Stanley, Scott M., Sarah W. Whitton and Howard J. Markman. 2004. "Maybe I Do: Interpersonal Commitment and Premarital or Nonmarital Cohabitation." *Journal of Family Issues* 25(4):496-519.
- Stanley, Scott M., Galena K. Rhoades and Markman J. Howard. 2006. "Sliding Versus Deciding: Inertia and the Premarital Cohabitation Effect." *Family Relations* 55:499-509.
- Tavares, Lara Patricio and Arnstein Aassave. 2013. "Psychological Distress of Marital and Cohabitation Breakups." *Social science research* 42(6):1599-611.
- Teachman, Jay. 2003. "Premarital Sex, Premarital Cohabitation, and the Risk of Subsequent Marital Dissolution among Women." *Journal of Marriage and the Family* 65(2):444-55.

**Appendix**  
**Supplemental Analysis**

**Transitions**

Transitions from a first cohabitation relationship are happening relatively quickly among our sample. By 6 months, almost a quarter of couples have transitioned with the majority of these transitions consisting of dissolutions. By 12 months, around 43% of first relationships have transitioned with dissolutions outnumbering marriage by an almost 3 to 1 margin. By two years, two thirds of first relationships have transitioned with 21% marrying and 45% of relationships dissolving. Overall, we see 34% of first relationships ending in marriage while 64% end in dissolution.



Month	Still Cohabiting	Married	Dissolved	Total
0	100	0	0	1867
6	76.78	5.85	17.37	1813
12	56.19	11.58	32.22	1744
18	41.56	16.3	42.15	1706
24	32.39	19.68	47.93	1667
36	20.56	23.83	55.62	1620
48	12.45	26.43	61.12	1574
60	7.84	28.24	63.92	1544
72	5.82	28.71	65.47	1529
84	3.39	29.44	67.18	1505
96	1.81	30.01	68.18	1493

Table A-1 shows the rates of transition for the second cohabitation relationship. The rate of transitions is very similar to the first relationship, with almost a quarter transitioning by the 6 month mark and 44% transitioning by one year. The ratio of marriages to dissolutions is fairly similar for the first 12 months as well, however we see divergence as the relationship length increases with 30% of all relationships ending in marriage compared with 68% ending with divorce.

Table A-2: Rate of transitions by month for Third Cohabitation

Month	Still Cohabiting	Married	Dissolved	Total
0	100	0	0	633
6	75.65	4.9	19.44	612
12	55.17	8.79	36.03	580
18	39.37	13.88	46.75	569
24	30.51	16.97	52.53	554
36	17.96	21.93	60.11	529
48	9.32	24.27	66.41	515
60	5.52	24.85	69.63	507
72	3	25.8	71.2	500
84	1.41	26.26	72.32	495
96	0.41	26.48	73.12	491

While the rates of transitions for relationship three are similar to relationships one and two, we see greater divergence among the outcomes. At the 6 month mark there are nearly 4 times the number of dissolutions compared to marriages. While this ratio becomes smaller as the relationship length increases, it remains larger than the first two relationships. This is represented graphically by Figure 4-1, where we can see that there is an almost 10 point difference in dissolutions of third relationships compared to first.

Table A-3: Median and mean relationship length by Relationship Order

Relationship Order	N=	Median (months)	Mean (months)
1	5073	14	22.68
2	1867	13	21
3	633	13	18.85
4	213	12	18.04
5	81	11	16.58
6	28	13.5	17.79
7	6	12.5	22.17
8	1	6	6

Table A-3 shows both the median and mean length of cohabitation relationships by order. Over the first 5 relationships, we see a steady pattern, with subsequent relationships becoming shorter by both measurements. Just looking at these averages suggests that each subsequent relationship is shorter than the one preceding it. However, this is a false impression. If we isolate the length of the first relationship to the respondents who only ever had one cohabitation, we obtain a median of 17 months and a mean of 26 months. When restricted to respondents who had two relationships, we obtain a median of 11 (mean of 17.4) for the first relationship and a median of 15 (mean of 23) months for the second relationship. For people who had three relationships, the first relationship had a median of 9 (mean of 14.9) months, second relationship had a median of 12 (mean of 17.4) and the third relationship had a median of 15 (mean of 20.8). Thus, for an individual who has multiple relationships, the average length of relationship (and average

relationship's length) is getting longer as the respondent moves to higher order relationships. This supports the idea that we need to look at relationship pathways, rather than treating a cohabitation as a discrete incident.

Of those who had a second cohabitation relationship (n=1867), there was definite partner information for 87% of these relationships (n=1631). Of those for whom we have partner information, 22% formed their second relationship with their first relationship partner. For those who had a third relationship (n=633); partner identification was only available for 68% (n=432) of partners. Of those for whom we had information 6% (n=26) had the same partner from the first and second relationship; 2% (n=7) had a different partner in their third relationship, but the same partner in the first and second; 7% (n=32) had the same partner in the first and third relationships, but a different partner in the second; 34% (n=145) had a different partner in the first relationships, but the same in the second and third; and the remaining 51% (n=222) had a different partner for each relationship.

### **Event History Analysis**

Table A-4: Parametric Event History Analysis for Full Sample - Repondent Variables

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution
Non-Hispanic Black	0.528*** (0.056)	-0.405*** (0.050)	0.636*** (0.062)	-0.316*** (0.058)	0.637*** (0.062)	-0.291*** (0.057)	0.654*** (0.062)	-0.179*** (0.054)	0.617*** (0.062)	-0.163*** (0.054)	0.578*** (0.059)	-0.302*** (0.050)	0.576*** (0.059)	-0.307*** (0.050)
Hispanic	0.458*** (0.056)	0.216*** (0.055)	0.410*** (0.062)	0.197*** (0.061)	0.399*** (0.062)	0.240*** (0.061)	0.399*** (0.061)	0.262*** (0.057)	0.373*** (0.061)	0.268*** (0.057)	0.337*** (0.059)	0.086 (0.052)	0.336*** (0.059)	0.080 (0.052)
Non-Hispanic Other	0.327** (0.125)	0.079 (0.125)	0.340** (0.128)	0.024 (0.123)	0.345** (0.129)	-0.001 (0.122)	0.352** (0.126)	-0.031 (0.115)	0.328** (0.125)	-0.027 (0.115)	0.312** (0.119)	-0.133 (0.103)	0.310** (0.119)	-0.136 (0.103)
Lived in Urban area at 1st Int.			-0.021 (0.051)	-0.103 (0.054)	-0.025 (0.051)	-0.110* (0.053)	-0.031 (0.051)	-0.121* (0.050)	-0.020 (0.050)	-0.121* (0.050)	-0.034 (0.048)	-0.111* (0.046)	-0.033 (0.048)	-0.110* (0.046)
Relationship Number			-0.138*** (0.028)	0.436*** (0.020)	-0.145*** (0.028)	0.455*** (0.020)	-0.139*** (0.028)	0.416*** (0.019)	-0.128*** (0.027)	0.413*** (0.019)	-0.108*** (0.026)	0.326*** (0.019)	-0.109*** (0.026)	0.325*** (0.019)
Age at Mother's First Birth			-0.004 (0.005)	-0.007 (0.005)	-0.003 (0.005)	-0.009* (0.005)	-0.003 (0.005)	-0.007 (0.004)	-0.003 (0.005)	-0.007 (0.004)	-0.002 (0.004)	-0.001 (0.004)	-0.002 (0.004)	-0.001 (0.004)
Age at First Sexual Intercourse			-0.044*** (0.009)	0.019* (0.009)	-0.042*** (0.010)	0.008 (0.009)	-0.042*** (0.009)	0.003 (0.009)	-0.040*** (0.009)	0.001 (0.009)	-0.037*** (0.009)	0.011 (0.008)	-0.036*** (0.009)	0.012 (0.008)
Age Relationship Started			-0.060*** (0.007)	0.046*** (0.006)	-0.054*** (0.007)	0.025*** (0.006)	-0.061*** (0.007)	-0.007 (0.006)	-0.053*** (0.007)	-0.011 (0.006)	-0.051*** (0.007)	-0.008 (0.006)	-0.051*** (0.007)	-0.008 (0.006)
Lived in North Central Region at First Interview			-0.340*** (0.063)	-0.009 (0.065)	-0.342*** (0.063)	0.011 (0.064)	-0.337*** (0.062)	0.022 (0.061)	-0.336*** (0.062)	0.016 (0.061)	-0.316*** (0.059)	0.022 (0.055)	-0.316*** (0.059)	0.021 (0.055)
Lived in South at First Interview			-0.543*** (0.061)	-0.033 (0.061)	-0.550*** (0.062)	-0.010 (0.061)	-0.539*** (0.061)	0.021 (0.057)	-0.541*** (0.061)	0.026 (0.057)	-0.515*** (0.058)	0.042 (0.052)	-0.515*** (0.058)	0.041 (0.052)
Lived in West at First Interview			-0.299*** (0.066)	0.087 (0.088)	-0.301*** (0.067)	0.113 (0.087)	-0.296*** (0.066)	0.091 (0.063)	-0.285*** (0.066)	0.088 (0.063)	-0.274*** (0.063)	0.100 (0.058)	-0.275*** (0.063)	0.100 (0.058)
Lived in Step-Parent Family at First Interview			0.122* (0.059)	-0.093 (0.061)	0.115 (0.059)	-0.042 (0.060)	0.115* (0.058)	-0.032 (0.058)	0.115* (0.058)	-0.035 (0.058)	0.101 (0.055)	-0.070 (0.053)	0.101 (0.055)	-0.070 (0.053)
Lived in Single Parent Family at First Interview			0.171*** (0.049)	-0.161** (0.049)	0.160** (0.049)	-0.103* (0.049)	0.169*** (0.049)	-0.054 (0.046)	0.166*** (0.048)	-0.045 (0.046)	0.142** (0.046)	-0.056 (0.042)	0.143** (0.046)	-0.055 (0.042)
Lived in Other Parent Family at First Interview			0.060 (0.087)	-0.037 (0.090)	0.036 (0.088)	0.025 (0.090)	0.054 (0.087)	0.085 (0.083)	0.055 (0.083)	0.087 (0.083)	0.021 (0.082)	0.081 (0.075)	0.024 (0.082)	0.083 (0.075)
Mother has High School Degree			-0.004 (0.055)	-0.102 (0.053)	0.016 (0.056)	-0.148** (0.053)	0.005 (0.055)	-0.183** (0.050)	0.018 (0.055)	-0.195** (0.050)	0.038 (0.053)	-0.108* (0.045)	0.038 (0.053)	-0.108* (0.045)
Mother has Bachelor's Degree			0.006 (0.078)	-0.141 (0.081)	0.034 (0.080)	-0.271** (0.083)	0.023 (0.080)	-0.301*** (0.079)	0.019 (0.078)	-0.306*** (0.079)	0.044 (0.075)	-0.158* (0.072)	0.046 (0.075)	-0.157* (0.071)
Religiosity Index			-0.122*** (0.024)	-0.043 (0.025)	-0.123*** (0.024)	-0.044 (0.024)	-0.122*** (0.023)	-0.037 (0.023)	-0.115*** (0.023)	-0.037 (0.023)	-0.114*** (0.022)	-0.057** (0.021)	-0.114*** (0.022)	-0.058** (0.021)
Enrolled in College			0.065 (0.048)	-0.069 (0.039)	0.065 (0.048)	-0.069 (0.039)	0.089 (0.048)	-0.028 (0.038)	0.087 (0.048)	-0.030 (0.038)	0.094* (0.046)	0.050 (0.035)	0.094* (0.046)	0.053 (0.035)
Has High School Degree			-0.166** (0.058)	0.275*** (0.043)	-0.166** (0.058)	0.275*** (0.043)	-0.201*** (0.058)	0.151*** (0.042)	-0.171*** (0.058)	0.132** (0.042)	-0.157*** (0.054)	0.152** (0.038)	-0.157*** (0.054)	0.151*** (0.038)
Has Bachelor's Degree			-0.042 (0.059)	0.479*** (0.063)	-0.042 (0.059)	0.479*** (0.063)	-0.068 (0.059)	0.213*** (0.061)	-0.067 (0.058)	0.214*** (0.061)	-0.058 (0.056)	0.336*** (0.057)	-0.055 (0.056)	0.343*** (0.057)
Hours worked in Month			0.000 (0.000)	0.000 (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Household Income			0.022** (0.008)	0.171*** (0.009)	0.022** (0.008)	0.171*** (0.009)	0.035*** (0.008)	0.160*** (0.010)	0.035*** (0.008)	0.160*** (0.010)	0.032*** (0.008)	0.149*** (0.009)	0.032*** (0.008)	0.148*** (0.009)
Household Income Squared			-0.001* (0.000)	-0.005*** (0.000)	-0.001* (0.000)	-0.005*** (0.000)	-0.001* (0.000)	-0.004*** (0.000)	-0.001* (0.000)	-0.004*** (0.000)	-0.001* (0.000)	-0.004*** (0.000)	-0.001* (0.000)	-0.004*** (0.000)
Household Income at Start of Relationship								-0.086*** (0.014)	0.071*** (0.019)	-0.079*** (0.013)	0.060*** (0.016)	-0.079*** (0.013)	0.061*** (0.016)	-0.079*** (0.016)
Household Income at Start of Relationship Squared								0.003*** (0.001)	-0.003** (0.001)	0.003*** (0.001)	-0.002* (0.001)	0.003*** (0.001)	-0.002** (0.001)	0.003*** (0.001)
Shared Pregnancy										-0.461*** (0.042)	0.515*** (0.041)	-0.460*** (0.042)	0.520*** (0.042)	-0.460*** (0.042)
Non-Shared Child Present										-0.049 (0.046)	0.284*** (0.035)	-0.024 (0.053)	0.333*** (0.039)	-0.024 (0.053)
Shared Child Present										0.340*** (0.039)	0.950*** (0.030)	0.360*** (0.044)	1.002*** (0.035)	0.360*** (0.044)
Blended Family												-0.074 (0.081)	-0.180** (0.063)	-0.074 (0.081)
Frailty	4.538*** (0.083)	3.298*** (0.081)	4.562*** (0.085)	3.460*** (0.086)	4.533*** (0.085)	3.459*** (0.086)	4.570*** (0.085)	3.262*** (0.067)	4.556*** (0.085)	3.271*** (0.067)	4.426*** (0.087)	3.063*** (0.067)	4.423*** (0.087)	3.056*** (0.067)
Constant	3.246*** (0.043)	3.744*** (0.057)	5.868*** (0.220)	2.093*** (0.217)	5.841*** (0.228)	2.513*** (0.218)	5.831*** (0.225)	2.933*** (0.206)	5.679*** (0.223)	3.004*** (0.207)	5.510*** (0.219)	2.386*** (0.192)	5.499*** (0.219)	2.360*** (0.192)
Observations	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547
Number of groups	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073
Number of Failures	2,118	4,392	2,118	4,392	2,118	4,392	2,118	4,392	2,118	4,392	2,118	4,392	2,118	4,392
Average F	41.89	38.95	25.79	76.62	22.41	70.89	21.17	91.16	21.35	79.17	29.38	107.3	28.45	104.7
Average p-value for F	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Standard errors in parentheses  
 \*\*\* p<0.001, \*\* p<0.01, \* p<0.05

Table A-6 shows there is a significant frailty when estimating both dissolution and marriage hazards. Therefore all subsequent regressions will include the frailty. As we are working within the accelerated time metric, all positive coefficients indicate that time-to-event is lengthened and the event takes longer to occur; whereas negative coefficients indicate that time to

event is accelerated and the event will happen quicker. For non-Hispanic Blacks, time to marriage is increased while time to dissolution is decreased as compared to the reference category of non-Hispanic Whites (Table A-4, model 1). As we are working in a competing risks framework and a respondent is at risk to both transitions simultaneously, this means that there is a higher probability than non-Hispanic Blacks will experience a dissolution before a marriage as compared to non-Hispanic Whites. By contrast, for Hispanics, time to marriage is increased, but as time to dissolution is also increased, Hispanics are more likely to stay in cohabitation relationships without experiencing any transition as compared to non-Hispanic Whites. For non-Hispanic others, time to marriage is increased, yet there is no effect on dissolution. This indicates that non-Hispanic others will dissolve their relationships at the same rate as non-Hispanic Whites, but their marriage transitions will be delayed. Figures 4-2a and 4-2b show the comparative hazard rates for the different racial groups.

There is little difference to the Race coefficients when background variables are added in model 2. Time to marriage decreases as relationship number increases, while time to dissolution increases, suggesting higher order marriages are more likely to transition to marriage as compared to lower order relationships. Both age at first sex and the age the relationships started are negatively related to marriage timing and positively related to dissolution time. All three region variables have a shorter time-to-marriage than the reference category of North East, with no effect on dissolution timing. Those respondents from a step-parent family had an increased time to marriage while those from single-parent families had an increased time to marriage and decreased time to dissolution. Higher scores on the religiosity index were associated with decreased time to marriage. There were no effects for urban residence, mother's age at first birth, other parent family or mother's education<sup>12</sup>.

---

<sup>12</sup> These variables were included in all models; tables are shown in reduced format for clarity. Full tables are available in the appendices.

Model 3 adds education variables. There is no effect of college enrollment on dissolution or marriage. Having a high school degree decreases time to marriage while increasing time to dissolution, while college degree increases time to dissolution. Note, that this effect is additive. After adding respondent's education, mother's education is now significantly (and negatively) related to dissolution timing, however in-depth testing suggested this was a statistical artifact<sup>13</sup>. Model 4 adds in work variables, with both hours worked in the month and household income positively related to both marriage and dissolution. Income squared is significant for both marriage and dissolution, with negative coefficients indicating the effect of income becomes weaker at higher dollar values. Model 5 adds the household income at the start of the relationship, which indicates that higher starting incomes decrease the time to marriage and decrease time to dissolution, both effects weaken as dollar amounts become higher.

Having a shared pregnancy decreased time to marriage while delaying dissolution, while having a non-shared child in the relationship delayed dissolution. Having a child with your partner increased both marriage and dissolution times, suggesting that those with children were more likely to cohabit for a longer period. When adding the blended family variable (essentially and interaction between shared child and non-shared child), there is a negative effect upon dissolution timing, indicating that blended families are slightly more unstable than families with just shared or non-shared children. The inclusion of the fertility variables changed the coefficients for a few variables as compared to model 4. Hispanics no longer have a significant effect against dissolution, religiosity is now related to a decreased time to dissolution as well as marriage and being enrolled in college is associated with delaying marriage.

---

<sup>13</sup> Further exploration of this finding found no indication for interaction or mediation effects. Moderately high polychoric correlations were found (highest rho=0.526) and model fit statistics indicated that while including respondent education was significant, mother's education never significantly added to the model. Thus, it is likely a statistical artifact and no more attention will be paid to it in the full respondent model





Table A-5 provides the results for our gendered variables. All three categories of male race show an increase in time to marriage when compared to non-Hispanic Whites. Among females, non-Hispanic Blacks have increased marriage and decreased dissolution times as compared to non-Hispanic Whites, while Hispanics have increased marriage time. Therefore we have significant and independent effects of female race independent of male race<sup>14</sup>. While some variables (relationship number, age at first sex, and mother's age at first birth) in model 2 have the same effect as in table A-4, we see different results for others. Living in an urban area at the first interview decreases the time to dissolution, while higher scores on the religiosity scale correspond to shorter times to both marriage and dissolution. Living in a step parent or single parent family at first interview increases time to marriage while living in single parent family also decreases time to dissolution. Other family forms have no effect. Living in the north central, south and west regions at first interview decreased time to marriage, while living in the west also increased time to dissolution. Both male and female age are negatively related to time to marriage and positively related to time to dissolution<sup>15</sup>.

In model 3 we find that for males, educational degrees decrease the time to marriage, with no effect upon dissolution. However, for females, educational degrees have no effect upon marriage timing, but increase time to dissolution. Subsequent analysis reveals that there is an interaction effect between gender and high school degree for both marriage and dissolution, however, no interaction was found for college degree. There is no effect for college enrolment.

When adding gendered economic variables, we see that for males, full time employment increases to time to dissolution as compared to men with no employment. For women, full and part time employment increase the time to marriage with no effects for dissolution. Looking at

---

<sup>14</sup> Note that this is not a simple interaction effect. Models were run with interactions between race and gender and no significant effects were found. Rather, this is the unique and additive effect of race for each partner.

<sup>15</sup> No significant interaction between age and gender was found.

gender interactions, we find that only full time employment interacts with gender for the dissolved outcome; all other specifications are non-significant. Female income increased both time to marriage and time to dissolution, while male income increased time to dissolution. No significant interaction between income and gender was found. When adding start income, male starting income decreases time to marriage and increases time to dissolution, while the female partner's income increases time to dissolution. Fertility variables were substantively similar to the runs in table A-4, with only slight changes in magnitude.

Table A-6: Parametric Event History Analysis for Full Sample - Repondent and Partner Variables Relative to Each Other

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution
Both Partners Non-Hispanic Black	0.485*** (0.065)	-0.048 (0.068)	0.503*** (0.070)	0.045 (0.071)	0.504*** (0.070)	0.039 (0.071)	0.495*** (0.070)	0.048 (0.072)	0.483*** (0.070)	0.054 (0.072)	0.448*** (0.067)	-0.092 (0.067)	0.447*** (0.067)	-0.094 (0.066)
Both Partners Hispanic	0.494*** (0.069)	0.432*** (0.096)	0.417*** (0.075)	0.413*** (0.097)	0.419*** (0.075)	0.409*** (0.097)	0.422*** (0.075)	0.397*** (0.093)	0.414*** (0.075)	0.403*** (0.093)	0.355*** (0.072)	0.174* (0.085)	0.353*** (0.072)	0.166* (0.084)
Both Partners Non-Hispanic Other	0.765** (0.271)	0.515* (0.250)	0.615* (0.296)	0.477 (0.245)	0.620* (0.297)	0.468 (0.246)	0.606* (0.298)	0.455 (0.247)	0.582* (0.294)	0.501* (0.244)	0.625* (0.263)	0.265 (0.228)	0.628* (0.263)	0.265 (0.227)
Mixed Race couple	0.194** (0.060)	-0.707*** (0.046)	0.166** (0.063)	-0.550*** (0.045)	0.164** (0.063)	-0.540*** (0.044)	0.160* (0.064)	-0.515*** (0.044)	0.157* (0.063)	-0.506*** (0.044)	0.151* (0.060)	-0.520*** (0.041)	0.151* (0.060)	-0.521*** (0.041)
Lived in Urban area at 1st Int.			-0.031 (0.052)	-0.069 (0.052)	-0.032 (0.052)	-0.066 (0.052)	-0.033 (0.052)	-0.065 (0.052)	-0.036 (0.051)	-0.059 (0.051)	-0.049 (0.049)	-0.059 (0.048)	-0.048 (0.049)	-0.058 (0.048)
Relationship Number			-0.238*** (0.026)	0.496*** (0.016)	-0.236*** (0.026)	0.493*** (0.016)	-0.236*** (0.026)	0.477*** (0.016)	-0.234*** (0.026)	0.475*** (0.016)	-0.205*** (0.026)	0.406*** (0.016)	-0.206*** (0.026)	0.405*** (0.016)
Age at Mother's First Birth			-0.009 (0.005)	-0.001 (0.005)	-0.009 (0.005)	-0.000 (0.005)	-0.009 (0.005)	0.000 (0.005)	-0.009 (0.005)	0.000 (0.005)	-0.007 (0.004)	0.005 (0.004)	-0.007 (0.004)	0.006 (0.004)
Age at First Sexual Intercourse			-0.063*** (0.009)	0.030** (0.009)	-0.064*** (0.009)	0.029** (0.009)	-0.064*** (0.009)	0.026** (0.009)	-0.064*** (0.009)	0.026** (0.009)	-0.059*** (0.009)	0.037*** (0.009)	-0.059*** (0.009)	0.038*** (0.009)
Male Age Relative to Female Age			0.054 (0.042)	0.047 (0.034)	0.056 (0.042)	0.048 (0.034)	0.061 (0.042)	0.034 (0.034)	0.096* (0.043)	0.004 (0.035)	0.088* (0.041)	0.008 (0.033)	0.088* (0.041)	0.007 (0.033)
Lived in North Central Region at First Interview			-0.314*** (0.064)	-0.017 (0.063)	-0.316*** (0.064)	-0.019 (0.063)	-0.314*** (0.064)	-0.020 (0.063)	-0.304*** (0.064)	-0.021 (0.062)	-0.277*** (0.061)	-0.025 (0.058)	-0.277*** (0.061)	-0.026 (0.058)
Lived in South at First Interview			-0.501*** (0.063)	-0.073 (0.059)	-0.502*** (0.063)	-0.074 (0.059)	-0.500*** (0.063)	-0.079 (0.059)	-0.495*** (0.062)	-0.082 (0.058)	-0.469*** (0.059)	-0.074 (0.054)	-0.470*** (0.059)	-0.076 (0.054)
Lived in West at First Interview			-0.261*** (0.067)	0.137* (0.065)	-0.263*** (0.067)	0.134* (0.065)	-0.262*** (0.067)	0.121 (0.064)	-0.258*** (0.067)	0.119 (0.064)	-0.248*** (0.064)	0.117* (0.059)	-0.249*** (0.064)	0.117* (0.059)
Lived in Step-Parent			0.155** (0.059)	-0.147* (0.059)	0.156** (0.059)	-0.144* (0.059)	0.155** (0.059)	-0.133* (0.058)	0.152* (0.059)	-0.134* (0.058)	0.138* (0.056)	-0.169** (0.054)	0.137* (0.056)	-0.169** (0.054)
Lived in Single Parent			0.230*** (0.049)	-0.214*** (0.048)	0.230*** (0.050)	-0.209** (0.048)	0.232*** (0.050)	-0.182** (0.047)	0.225*** (0.049)	-0.170** (0.047)	0.192*** (0.044)	-0.195*** (0.044)	0.193*** (0.047)	-0.195*** (0.044)
Lived in Other Parent			0.137 (0.088)	-0.095 (0.087)	0.139 (0.088)	-0.090 (0.088)	0.141 (0.089)	-0.045 (0.086)	0.144 (0.089)	-0.032 (0.086)	0.092 (0.084)	-0.067 (0.084)	0.096 (0.084)	-0.065 (0.079)
Mother has High School			-0.048 (0.055)	-0.080 (0.053)	-0.051 (0.055)	-0.085 (0.053)	-0.052 (0.055)	-0.090 (0.052)	-0.047 (0.055)	-0.091 (0.052)	-0.023 (0.053)	-0.018 (0.047)	-0.023 (0.053)	-0.017 (0.047)
Mother has Bachelor's			-0.082 (0.077)	-0.103 (0.079)	-0.089 (0.078)	-0.103 (0.079)	-0.093 (0.077)	-0.111 (0.079)	-0.098 (0.077)	-0.103 (0.079)	-0.059 (0.074)	0.052 (0.071)	-0.057 (0.074)	0.055 (0.070)
Religiosity Index			-0.103*** (0.024)	-0.071** (0.024)	-0.103*** (0.024)	-0.071** (0.024)	-0.103*** (0.024)	-0.061* (0.024)	-0.105*** (0.024)	-0.056* (0.024)	-0.104*** (0.023)	-0.078*** (0.023)	-0.105*** (0.023)	-0.079*** (0.023)
Enrolled in College					0.079 (0.048)	-0.089* (0.038)	0.081 (0.048)	-0.080* (0.038)	0.081 (0.048)	-0.083* (0.038)	0.090 (0.046)	-0.012 (0.036)	0.091* (0.046)	-0.009 (0.036)
Male Partner has More Education					0.009 (0.053)	-0.180*** (0.040)	0.013 (0.053)	-0.174*** (0.039)	0.005 (0.053)	-0.169*** (0.038)	0.028 (0.050)	-0.161*** (0.037)	0.026 (0.050)	-0.161*** (0.037)
Female Partner has More Education					0.053 (0.046)	-0.081 (0.042)	0.047 (0.046)	-0.067 (0.042)	0.049 (0.046)	-0.068 (0.042)	0.038 (0.045)	-0.053 (0.038)	0.038 (0.045)	-0.053 (0.038)
Male Partner Works More							-0.032 (0.034)	-0.029 (0.026)	-0.033 (0.034)	-0.028 (0.026)	-0.033 (0.032)	-0.069** (0.025)	-0.033 (0.032)	-0.070** (0.025)
Female Partner Works More							0.001 (0.048)	-0.203*** (0.035)	-0.004 (0.048)	-0.201*** (0.035)	-0.002 (0.045)	-0.200*** (0.032)	-0.002 (0.045)	-0.200*** (0.032)
Male Partner Earns More							-0.013 (0.051)	0.370*** (0.034)	0.017 (0.052)	0.324*** (0.036)	0.003 (0.049)	0.294*** (0.034)	0.004 (0.049)	0.294*** (0.034)
Female Partner Earns More							0.048 (0.055)	0.108** (0.036)	0.053 (0.056)	0.086* (0.037)	0.041 (0.053)	0.089* (0.035)	0.042 (0.053)	0.088* (0.035)
Male Partner Earned more at Relationship Start									-0.188** (0.062)	0.224*** (0.046)	-0.148* (0.059)	0.204*** (0.043)	-0.148* (0.059)	0.203*** (0.043)
Female Partner Earned More at Relationship Start									-0.017 (0.067)	0.063 (0.047)	0.015 (0.064)	0.083 (0.044)	0.015 (0.064)	0.084 (0.044)
Shared Pregnancy											-0.435*** (0.042)	0.459*** (0.043)	-0.433*** (0.042)	0.461*** (0.043)
Non-Shared Child Present											-0.076 (0.046)	0.236*** (0.035)	-0.044 (0.046)	0.284*** (0.039)
Shared Child Present											0.396*** (0.039)	0.864*** (0.032)	0.421*** (0.045)	0.916*** (0.038)
Blended													-0.098 (0.083)	-0.173** (0.065)
Frailty	4.569*** (0.084)	3.195*** (0.084)	4.634*** (0.085)	3.342** (0.067)	4.630*** (0.085)	3.330** (0.067)	4.630*** (0.085)	3.244*** (0.068)	4.626*** (0.084)	3.251*** (0.068)	4.502*** (0.086)	3.137*** (0.067)	4.497*** (0.087)	3.133*** (0.067)
Constant	3.254*** (0.044)	3.884*** (0.063)	4.979*** (0.198)	2.856*** (0.197)	4.969*** (0.198)	2.921*** (0.197)	4.984*** (0.204)	2.826*** (0.197)	5.051*** (0.208)	2.729*** (0.197)	4.839*** (0.201)	2.211*** (0.190)	4.821*** (0.202)	2.180*** (0.190)
Observations	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547	179,547
Number of groups	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073
Number of Failures	2118	4392	2118	4392	2118	4392	2118	4392	2118	4392	2118	4392	2118	4392
Average F	19.75	98.75	17.87	81.63	15.44	68.74	13.05	63.52	12.77	59.66	20.72	79.12	20.15	77.68
Average p-value for F	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Standard errors in parentheses

\*\*\* p&lt;0.001, \*\* p&lt;0.01, \* p&lt;0.05

Table A-6 shows the results of respondent and partner variables relative to each other.

Looking at racial parity, both partners being non-Hispanic Blacks, time to marriage is increased as compared to both partners being non-Hispanic White. In fact, all racial parity groups

(including mixed race couples) have an increased time to marriage as compared to all-white couples. When both partners are Hispanic or non-Hispanic other, there is also an increase in time to dissolution, suggesting longer cohabitation spells among these couples. Mixed race couples have a shorter time to dissolution which corresponds to more relationship instability among this group. There is only one relative variable of interest added in model 2 with male age relative to female age having no effect on dissolution or marriage timing.

When relative education is coded into dummy variables (male partner has highest education, education at parity, female partner has highest education), the male partner having a higher education decreases time to dissolution as compared to both partners having the same education ( $b = -0.180$  s.e. = 0.040). The female partner working more was associated with decreased time to dissolution while either partner earning more than the other was associated with increased time to dissolution. When we include starting income, the male partner earning more decreases time to marriage and increases time to dissolution, while female partner earning more has no effect. The fertility variables have the same substantive effects as the other runs.

### *Summary*

By conducting three separate runs, we are able to isolate the effects of each variable in a way we would not otherwise be able to. Firstly, we find that non-Hispanic Blacks have a fairly consistent disadvantage when compared to Non-Hispanic Whites. In table A-4, all models consistently show non-Hispanic Blacks have a greater time to marriage and shorter time to dissolution. In the second run, we found an additive effect of non-Hispanic Black by gender for marriage hazards, while the decreased time to dissolution was specific to females. Table A-6 shows that when both partners are Non-Hispanic Black there is an increase in time to marriage, but no effect upon dissolution timing. Thus, it appears that non-Hispanic Black couples and

individuals have an increased time to marriage, with this result consistent across numerous specifications. However, we have evidence that there is only a decreased time to dissolution when one partner is Non-Hispanic Black and the other is not.

For Hispanic respondents, there is a trend towards longer cohabitation relationships. When looking at just respondent variables (table A-4), Hispanics consistently have a longer time to marriage than the reference, a result that holds across all models. In the first four models, Hispanics have a longer time in dissolution but this effect disappears once fertility variables are added. Our gendered variables show that there is an increase in time to marriage for both male and female Hispanics, with no effect upon dissolution. The relative variables show that when both partners are Hispanic there is an increased time to marriage and an increased time to dissolution. Further analysis shows that the effect on dissolution of both partners being Hispanic disappears if fertility variables are added<sup>16</sup>.

Non-Hispanic other has a consistent increased effect upon time to marriage. When separated by gender, there is only an independent effect for males, but the increased effect persists when both partners are non-Hispanic other. When the couple is of mixed race, there is an increased time to marriage with a corresponding decrease in time to divorce, suggesting these partnerships are especially unstable.

Thus, the clearest finding from the racial analysis is the advantage non-Hispanic Whites enjoy when looking at chances of transitioning to marriage.

There is weak and inconsistent effects for urban residence, mother's age at first birth and mother's education in our overall sample, though the by class analysis may clarify the effect (if any) of these variables. The respondent's age when the relationship started reduced the time to

---

<sup>16</sup> Specifically, we find that there is a negative interaction coefficient for Hispanic and Biological pregnancy. This suggests that for Hispanics, a pregnancy can hasten dissolution, rather than providing a protective effect, which is what is found for the overall sample. However, the analysis by classes will help clarify this finding.

marriage through all models, while it increased time to dissolution in models 2 and 3, but was no longer significant once work variables were introduced (the coefficient was reduced by 75%).

This suggests that the majority of the protective effect on dissolution is due to rising socioeconomic status as respondent's age. When separating start age by gender, we find that it is male age that provides a protective effect against dissolution, while female age decreases the time to marriage<sup>17</sup>. Age at first sex was only available for the respondent, yet it is consistently related to shorter time to marriage and longer time to dissolution. This finding is found for most models across the three different runs; it is most robust in the relative variable specification models.

Those who lived in the North East region (the reference category) when first interviewed had consistently longer time to marriage than those from other regions. In general, there was no effect of region on dissolution probability, except in the relative variable model, where the West region had a longer time to dissolution<sup>18</sup>. This suggests that longer cohabitations are more likely in the North East, as marriage is being delayed without a corresponding reduction in dissolution times.

Family-of-origin variables do not have clear effects across models. When first entered in the respondent variables analysis, having lived in a single parent family at first wave was associated with longer times to marriage and decreased time to dissolution. This finding holds until model 4, where the effect on dissolution disappears while the effect on marriage persists. Living in a step parent family is associated with a longer time to marriage in models 2, 4 and 5, but is non-significant in models 3, 6 and 7. In the analysis by gender, the effect of single parent family is more robust across models, while the effect of step parent family changes depending on model specification. In the relative variable model, both variables have robust effects with both family forms associated with longer time to marriage and shorter time to dissolution. Additional

---

<sup>17</sup> There was no interaction effect between start age and gender for either outcome.

<sup>18</sup> Running model 7 in table A-9 for dissolution with and without region variables showed that the region variables did not significantly add to the model and thus this finding is not considered robust.

testing found an interaction by gender for step family in the dissolution model and single family for the marriage model, with family of origin variables having stronger effects for males.

Religiosity consistently predicts shorter time to marriage across all models in all analyses. In almost all models (models 2 to 4 in the respondent analyses being the exceptions) religiosity increases time to dissolution. This suggests that cohabitation is an unstable form for those with high levels of religiosity, with transitions happening quickly. There is an interaction effect between gender and religiosity for the dissolved outcome, with religiosity having a stronger negative effect for females as compared to males.

College enrolment has little effect across models, with the only effects coming for marriage in models 6 and 7 with respondent variables, model 7 for relative variables while effecting dissolution timing in models 3-5 for the relative variable models. Model fit statistics suggest this variable does not significantly improve fit for any of these specifications.

For educational degrees, we find consistent effects of respondent's education level across all models. Having a high school degree decreases time to marriage and increases time to dissolution, while a bachelor's degree increases time to dissolution only<sup>19</sup>. When looking at educational degree by gender, we find that, for males, both high school and bachelor degrees decrease time until marriage with no effect for dissolution. For females, the coefficients change between models, with the full model showing that high school and bachelor degrees decrease time to marriage and increase time to dissolution for females. There is a significant interaction between high school degree and gender for both marriage and dissolution, with high school having a stronger effect for dissolution for females, with a weakened effect for marriage. When looking at relative education, it was found that when the male partner has more education, there was an increased chance of dissolution as compared to when partners have equal education.

---

<sup>19</sup> As stated previously, this is an additive effect so a respondent with a bachelor's degree will also have a high school degree.

In the respondent's variables model, income and hours worked have very similar effects, with both increasing time to marriage and dissolution across all models. However, when we parse these effects by gender we find differing effects. For males, fulltime employment increases dissolution time as compared to being unemployed, with no effect for marriage or part time employment. For females, both full time and part time work increase time to marriage with no effect upon dissolution. Looking at relative work status, it was found that unequal work status decreased time to dissolution when only the female partner was working. For income, female income is related to increased transition time for both marriage and dissolution, while for men it only increases time to dissolution. There was a significant interaction between gender and full time employment for dissolution while the interaction between gender and income was significant at the  $p=0.1$  for both outcomes. For full time employment, males have a significantly stronger effect than females increasing dissolution time. For income, females have a stronger effect on both marriage and dissolution times.

However, we wanted to examine raw levels of starting income in addition to dynamic income levels. Starting household income consistently decreases time to marriage and increases time to dissolution. When divided up by gender, we see the marriage effect is driven by male income, with both male and female income contributing to increased time to dissolution. In the relative variable model, the male partner earning more at the start of the relationship decreased time to marriage and increased time to divorce.

Fertility variables have clear and consistent effects across all analysis specifications. Experiencing a shared pregnancy decreases time to marriage and increases time to dissolution, while a non-shared child has a preventative effect against dissolution. A shared child increases time to both marriage and dissolution, suggesting that people with a shared child have longer cohabitations. Those with a blended family have a decreased time to dissolution, as this is an interaction variable, this is in addition to the effect on a non-shared and a shared child.



### **Latent Class Analysis**

Membership in the traditional category is characterized by very low levels of fertility, with the probabilities of a shared pregnancy at 0.001. They were also likely to have had the one relationship, with a .89 probability of having one relationship, the highest of any group. Of those who did form a second relationship, 43% of these relationships are with the same partner as the first relationship. There was no clear pattern on relationship length, with probabilities splitting fairly evenly between categories, with a .22 probability for a relationship shorter than 6 months and .32 probability for 24+ months. Age at the start of the relationship was relatively old, with 76% of respondents starting their relationships after 22 years old, by far the highest of all groups. Due to the lack of fertility events, relatively older starting age and the overwhelming majority have only one relationship, I am calling this group the traditional relationship group.

Cohabitations among this groups are relatively successful, with 39% of relationships ending in marriage. Overall, just under half of respondents in this group were married by their last observation, with 26% still cohabiting and 26% not currently in a relationship. This is the second highest proportion of marriages among our five groups.

Table A-7: Predictors of Latent Class Variable Membership

		Class 1 -	Class 2 -	Class 3 -	Class 4 -	Class 5 -
		Traditional	Shared Family	Multiple Relationship	Fertility Driven	Multiple Partner Fertility
At 1st Interview lived in:	Urban Area		-0.233* (0.107)	-0.294** (0.103)	-0.011 (0.165)	-0.139 (0.123)
	North Central Region		0.027 (0.134)	0.182 (0.132)	0.171 (0.216)	-0.007 (0.147)
	South Region		0.053 (0.123)	0.138 (0.127)	0.455* (0.197)	-0.153 (0.137)
	West Region		0.239 (0.132)	0.249 (0.139)	0.249 (0.220)	-0.032 (0.153)
	Step-parent family		0.334** (0.120)	0.460*** (0.123)	0.035 (0.181)	0.700*** (0.138)
	Single-parent family		0.262** (0.097)	0.591*** (0.100)	-0.208 (0.155)	0.670*** (0.115)
	Other-parent family		0.337* (0.168)	0.487** (0.181)	0.060 (0.259)	0.742*** (0.185)
	Religiosity		0.017 (0.048)	-0.040 (0.047)	0.129 (0.076)	0.055 (0.058)
Mother's Characteristics	High School Degree		-0.299** (0.098)	0.037 (0.110)	-0.346* (0.160)	-0.235* (0.111)
	College Degree		-1.000*** (0.169)	-0.337* (0.162)	-0.907*** (0.258)	-0.960*** (0.209)
	Age at First Birth		-0.040*** (0.010)	-0.025** (0.009)	-0.032* (0.015)	-0.051*** (0.011)
Respondent Characteristics	Non-Hispanic Black		0.298* (0.116)	-0.172 (0.117)	-0.202 (0.179)	0.367** (0.128)
	Hispanic		0.903*** (0.114)	-0.022 (0.129)	0.262 (0.179)	0.653*** (0.136)
	Non-Hispanic Other		0.011 (0.270)	-0.392 (0.285)	0.099 (0.369)	0.558* (0.263)
	Age at First Sex		-0.108*** (0.018)	-0.103*** (0.019)	-0.073* (0.028)	-0.164*** (0.019)
Constant			1.500*** (0.378)	0.866* (0.384)	-0.167 (0.577)	2.025*** (0.423)
Observations		5,073	5,073	5,073	5,073	5,073

Standard errors in parentheses

\*\* p&lt;0.01, \* p&lt;0.05

When predicting latent class membership, the traditional class is the reference group.

Respondents in our traditional class were more likely to be from an urban area than those in class 2 and class 3, and less likely to be from the south than those in group 4. They were more likely to have grown up in a biological two parent household than 3 out of the 4 groups. They are more likely to have highly educated mothers and their mother's age at first birth is higher than all other categories. Respondents are less likely to be minorities and have an older age at first sex than all other categories.

Table A-8: Socioeconomic variables at the start and end of respondent's relationship history

	Full sample		Traditional		Shared Family		Multiple relationship		Fertility Driven		Multiple Partner Fertility	
	At Start	Last Observation	At Start	Last Observation	At Start	Last Observation	At Start	Last Observation	At Start	Last Observation	At Start	Last Observation
High School	72.26	82.34	85.99	88.9	63.89	75.28	64.51	82.96	71.67	76.2	42.26	69.35
College	11.31	15.93	20.95	25.27	3.18	5.88	3.53	13.87	3.4	5.67	0.31	2.17
College Enrol	15.93	11.67	19.37	14.46	9.42	5.88	19.98	12.22	14.16	11.33	6.97	8.05
Male Works Full Time	63.12	65.19	66.75	66.63	64.99	68.05	56.29	60.99	66.57	70.54	54.33	58.82
Male Works Part Time	17.11	15.81	16.29	16.83	16.28	13.34	19.86	16.92	15.86	11.9	18.27	15.79
Male Doesn't work	19.77	19	16.96	16.54	18.73	18.6	23.85	22.09	17.56	17.56	27.4	25.39
Female Works Full Time	46.95	50.86	55.53	57.4	37.94	43.94	42.66	52.06	41.08	40.79	35.29	39.16
Female Works Part Time	24.82	21.82	23.73	22.07	23.01	21.05	31.61	22.5	22.66	17.85	23.37	22.76
Female Doesn't work	28.23	27.32	20.74	20.53	39.05	35.01	25.73	25.15	36.26	41.36	41.33	38.08
House income	20.1	38.12	24.82	42.44	18.47	37.12	14.71	39.13	19.22	26.26	12.15	28.43
Male Income	12.45	23.24	15.06	25.33	11.94	23.68	8.94	23.2	13.29	17.69	7.54	17.97
Female Income	7.65	14.88	9.76	17.11	6.53	13.44	5.78	15.93	5.94	8.57	4.62	10.46

When we look at the relationship start variables compared to our last observation variables in Table A-8, it is clear that this class has relatively high levels of socioeconomic success at both the relationship start and at their last observation, especially among female partners. At the start of the relationship, 76% of respondents have a high school degree, with approximately equal number of men and women having their degree. They are much more likely to start with a college degree with 20% of males and 26% of females obtaining their degree before cohabitation. This significant higher than the next highest class. When combined with the 19% who were enrolled in college when they started their cohabitation, 40% of those in the traditional group start the relationship with at least some college experience. While there is not much difference in high school completion rates and eventual outcome, there is distinct differences in college completion and relationship outcome. For males, of those who started their first relationship with a college degree, 48% of them were married by last observation, while 20% were single and 32% were still cohabiting. Females with bachelors had similar proportions. There was no significant difference between starting education and ending education, suggesting that, for this class, it is starting education that is vital to relationship success.

Their advantage is also shown through starting income, with an average household income of \$25,000, just over \$6,000 more than any other group. They are also more likely to be a dual earning couple, with the lowest number of both men and women out of the labor force. Around 56% of female partners in class 1 start the relationship while employed full time, which is just under 8 percentage points higher than any other group. 43% of couples have both partners working full time, while 18% had a single earner (7% where the female partner was the sole earner and 11% where the male was the sole earner). For those who eventually dissolve, household income is \$7000 less than those who will eventually marry, or who will be still cohabiting. This suggests that higher starting income may help prevent dissolution, but income alone does not drive marriage timing.

Average household income at last observation is \$42,790, however, this average obscures an interesting detail. If the respondent is transitioning to marriage at the last observation, the average household income is \$49,330 and those still cohabiting have \$48,200 which is statistically identical. However, among those who break up, their last income measurement before dissolution (that is, both incomes still make up the household income) is only \$29,850, significantly lower than those who marry or are still cohabiting. Thus, the gap between eventual married and still singles has grown larger, but adheres to the same general pattern. This pattern holds with both male and female incomes

There is little fertility in this class and even less movement during a relationship history. No-one enters or finishes their relationship pathway while pregnant and 6.7% of couples enter with a shared child, while 6.8% leave with a shared child. There is no significant difference between outcomes and the presence of a shared child. There is more couples who have a non-shared child present at the start of the relationship and a few more still who end their relationship with a non-shared present. Those with a non-shared child at either the start or end of the relationship have a lesser chance of marriage, but there is no difference between dissolution and still cohabiting couples.

Membership in Class 2 is characterized by high levels of shared fertility events. By the last available observation, all but five relationships in Class 2 will have a shared child present. Around 15% of respondents will start cohabiting with a shared child already present, 13% will have a non-shared child present and 38% will start the cohabitation while pregnant with a child. Of the 35% remaining couples, there will be both the start of the pregnancy and the birth of the child within the relationship (the five respondents who did not have a shared child at the end of the observation period had a shared child at some stage). This class has the highest probability of not having any non-shared children (0.884). These couples cohabit for the longest period of time

compared to all other classes, with a 0.74 probability of having a relationship of 2 years or longer. The average length of cohabitation in this class is 47 months (almost 4 years) with a median length of 38 months. Respondents had the highest probability of a single cohabitation relationship (.763) with a small minority having 2 (.236); of those who had a second relationship, 60% of them had the same partner as relationship one. As this class involves high levels of shared fertility events and long periods of cohabitation, I am calling this class the Shared Family Class.

Cohabitations were fairly successful among this class, with 34% of all cohabitations ending in marriage. Over a respondent's relationship history, 45% were married by their last observation. 32% of respondents were still in a cohabitation relationship, while 23% were not currently in a coresidential relationship.

When predicting class membership (relative to the traditional class), those from rural areas were more likely to be in the Shared Family class. These respondents were much less likely to be from a two-parent biological family and were less likely to have an educated mother. Respondents from this class were much more likely to be Hispanic (33% of respondents in this class were Hispanic, compared to 20% of the population).

Looking at our socioeconomic variables, we see a more traditional gender pattern among this class. At the start of the cohabitation, 39% of women in this class are not in the labor force, and this is fairly evenly spread between the relationship outcomes. We see a very interesting pattern among the men, with higher levels of full time employment for those who will eventually marry compared to those who will dissolve (73% vs 53%). This pattern holds for the last observation, with 80% of men who marry working full time. 41% of Class 2 couples have a single earner compared to the 27% of couples where both partners work full time. There is little effect for education among this group; women's education rises slightly through the observation period and college attainment is highest among those who were still cohabiting, followed by those who married.

Incomes for this class started and finished at average levels. Although there was a significant difference in ending incomes between those who married versus those who dissolved (\$35,850 versus \$27,090), there was no statistical difference in the starting incomes of this group (\$19,300 versus \$16,300). Interestingly, looking at male and female incomes shows that this effect is driven by male earnings, female earnings are statistically indistinguishable between those who marry and those who do not, while males who dissolve have a significantly lower income than those who married.

Class 3 is characterized by the high probabilities of multiple relationships with a 0.558 probability of 2 relationships and 0.44 probability of 3+ relationships. This class is unlikely to start a relationship with a partner from a previous relationship, with only 22% of second relationships involve the same partner. However, when looking at relationship 3, 55% of relationships involved a partner from a previous relationship (when all partners are known). Fertility events are quite unlikely, with only a 0.078 probability of a pregnancy and a 0.018 probability of their relationship history containing a shared child. There is a larger chance of a non-shared child in the relationship (0.289), but the majority of relationships are child free. Relationships are of average length, with over half of the relationships lasting between 6 and 18 months. First relationships are the shortest, with a mean of 12.6 months and a median of 9. The second relationship has a mean of 16.3 and a median of 11. All other relationships are statistically identical to relationship 2, but longer than relationship 1. Relationships start relatively young, with around 70% of first relationships forming before the age of 22. As the defining characteristic of this class is multiple relationships, this class shall simply be called the Multiple Relationship Class.

Relationships in this group were extremely likely to end in dissolution, with 74% of relationships dissolving, while only 15% of relationships resulted in marriage. However, while an

individual relationship was unlikely to end in marriage, marriage was still quite common when taking a relationship trajectory into account. Almost 45% of respondents in this category had married by their last observation, with 27% still in a cohabitation relationship. Interestingly, this group also spent a large amount of time between cohabitation with an average gap of 22.5 months between each cohabitation spell. Marriages that ended in dissolution had a significantly shorter gap than those that ended in marriage, suggesting a longer gap was beneficial to marriage odds.

Respondents from this class were more likely to be from a rural area than those in the reference class, with no other regional differences. They were less likely to be from a two-parent biological family. Interestingly, there was no difference between the two classes when it came to their mother having a high school degree and while there was a difference between their mother having a college degree, the coefficient was relatively small compared to other classes. This class had a similar racial make up as our reference class.

Looking at our socioeconomic variables, it is clear that respondents in the group are committed to upward mobility, especially for the female partner. There is a 8 percentage point increase in high school degrees for men between the first and last observation, compared to 9% for women. However, for college degrees, women will increase from 6% to 18% a leap of 12 percentage points, by far the largest jump of any class. 18% of males who were married at their last observation had a college degree, compared to 8% who dissolved and 12% who were still cohabiting. Similar patterns were found among women. There is a similar pattern for work status, with a larger proportion of full time employment among marriages than dissolution or continuing to cohabit for both men and women.

Household income increases from \$14,240 to \$38,210 a jump of \$23,970. There is no statistical difference between the starting incomes of those who will eventually marry and those who will not; however, by the last observation, household income is \$46,880 for those who marry compared to \$28,510 for those who will not. Those who are still cohabiting at their last



observation have a household income of \$36,593, which is significantly different from those who will marry and those who will dissolve. This pattern holds with both male and female incomes, with both genders having significantly higher incomes when marrying than dissolving.

However, when we look at income by relationship number, a very interesting picture emerges. For the first relationship, starting income is \$14,239, while ending income is \$16,658 (everyone in this class ends their first relationship through dissolution). However, we can see distinct separation at the start of the second relationship. Of those who will marry from this cohabitation, starting household income is \$30,879 while those who will dissolve have an income of \$20,473. At the end of the relationship, of those who have married, their income has increased to an average of \$47,980 compared to those who dissolved have an ending income of \$25,924. This pattern continues in relationship 3, with those who will marry from this relationship have a starting income that is \$13,552 higher than those who will dissolve from this relationship. At the end of the third relationship, those who married had twice the income of those who dissolved (\$46,977 to \$23,260). This class starts from a fairly disadvantaged socioeconomic position. Having successful relationships is clearly tied to upward mobility, with large differences in income, education and work status for those who marry.

Class 4 is characterized by shared fertility events and short relationships that have a high probability of marriage. The probability of having a shared pregnancy in this class is 0.66, while the probability of a shared child is 0.32. Additional analysis shows that of those who did not experience a pregnancy 89% of them had a shared child present; thus, only 8 respondents in this group did not have a shared pregnancy or child present. 85 of 287 respondents entered into the relationship while pregnant, while 211 ended the relationship while pregnant (58 of whom were pregnant for the whole cohabitation). Cohabitation in this class were extremely short with a mean length of 9 months and a median length of 6 months. 76% of relationships ended in marriage

while 85% of respondents in this class were married by the last observation. Of the few (n=21) who had a second relationship, only 33% of relationships were with the same partner as the first relationship. Relationships started fairly young, with almost 60% forming before the age of 22. As transitions happen very quickly and coincide with fertility events, I am calling this class the Fertility Driven Transitions Class.

There are very few differences between this class and our reference class when it comes to predicting latent class membership. Respondents were more likely to be from the south and were less likely to have an educated mother than the traditional class. Racial characteristics were the same as the traditional class, as was family of origin. As with every other class, age at first sex was associated with lower probabilities of membership than the traditional class.

Looking at our start of relationship and last observation variables, we see there is not much movement, which is not surprising given the short relationships length. There is a significant difference between the proportion of men with a high school degree among those who married compared to those who dissolved. There is also a large gap when it comes to men's employment, with 72% of those who married working full time compared to 54% among those who dissolved. There is a large proportion of women who are not in the labor force, but this is likely voluntary due to the high proportion of pregnancies and recent births in this class.

Class 5 is characterized by high levels of fertility events and multiple cohabitations. 51% of respondents have 3+ relationships while 49% have had two relationships. Respondents are likely to have experienced a pregnancy while cohabiting (0.81), likely to have one (0.36) or more (0.45) non-shared children and extremely likely to have at least one shared child (0.95). Relationships start quite young with 29% of relationships starting at 18 years old or younger, with an additional 56% forming between 19 and 21 years of age. When starting their second relationship, 19% of respondents had the same partner from the first relationship, of those who

started a third relationship, 55% involved a partner from a previous relationship when all partners were known. The average length of relationship is 20 months with a median of 13 months. There is no significant difference in length based on number of relationships. Because of the high proportion of non-shared children and blended families, I am calling this group the Multiple Partner Fertility Class.

Marriage is quite unlikely among this group with a little less than 10% of relationships ending in marriage. By the last observation, less than a third of this group has married (31%) with 39% of respondents still cohabiting.

Respondents in this class are much less likely to be from a biologically two parent family and are less likely to have a mother with a high school or college degree compared to the reference class. Respondents are also more likely to be minorities than the reference group and have the earliest age at first sex.

This class starts from a fairly disadvantaged socio-economic position. This class has the lowest rate of college enrolment, college degrees and high school degrees at the start of the relationship compared to any other class. This may be due to the young start age, but by the end of the relationship trajectory, this class still has the lowest levels of educational achievement. There is no significant differences between education and relationship outcome on any of our measures. This class also has the lowest proportion of full time employment for both male and females at both the start of a relationship trajectory and at the last observation. For males, being employed full time is associated with marriage at the last observation compared to both continuing to cohabit and being single. Females who are not employed or in the labor force are less likely to have married at the last observation compared to cohabiting or being single.

This class has the lowest starting incomes of any class, with men who will eventually marry having a significantly higher income than those who will be single at last observation. Income does increase as the relationship trajectory progresses, but income levels remain

relatively low in comparison to other groups. Both male and household income are significantly higher for those who married compare to those who dissolved and those who stay cohabiting.

There is a large amount of change in fertility variables between first and last observations. The number of respondents with shared children present rises from 21.4% to 51%, while the number of respondents with non-shared children quadruples from 18% to 80%. Additional analysis reveals than non-shared child come from both a respondent's previous relationship and from a partner moving in with their child. Having a non-shared child decreases marriage probability compared to both continuing to cohabit and remaining single. Around 30% of families are blended families, with no difference in outcomes.

### *Summary*

From our latent class and summary statistics, it seems there are distinct cohabitation pathways that young adults take. The traditional class starts from a position of relative privilege with high levels of maternal education, high levels of education themselves and higher starting incomes than our other classes. This class is highly likely to be a dual earning couple and they experience very few fertility events in the relationship. The shared family class is characterized by long relationships in which they are raising their children. Over 99% of respondents have a shared child present at last observation and the average length of cohabitation was 3 and a half years. This class is more likely to have traditional gender roles, with male employment and income appearing to play a role in relationship outcomes.

The Multiple Relationship Class are the most upwardly mobile of all the classes. This class has some of the lowest starting socioeconomic values among the classes, yet some of the highest finishing values. A significant minority are cohabiting while at college and there is a clear correlation between income and marriage. Those in the Fertility Driven class had relatively short

relationships and an extremely high probability of marriage. It is clear that marriage and fertility decisions were very much intertwined for this class with 80% of respondents having a shared pregnancy when getting married. The Multiple Partner Fertility class faced the highest level of socioeconomic disadvantage when starting their relationship. They had the highest number of cohabitation relationships and had the lowest rate of marriage among all classes. Although their socioeconomic position had improved by last observation, it was still relatively low compared to other classes.

However, our analysis so far is limited to summary, univariate statistics. In the next section, we will assess how these findings apply in a multi-variate framework.

### **Event History Analysis By Class**

Figure 4-3a shows the hazard of marriage across time and divided by class. The Fertility Driven Transitions class is the clear outlier with marriage hazard peaking at approximately 11 months with a hazard function of approximately .175. The next highest peak of around 0.06 occurs between 30 and 37 months for the Traditional Class. Those in the Pre-Cohabitation Fertility class have the lowest hazard of marriage across all time points, with the Multi-Partner Fertility class following a very similar trajectory.

Turning to dissolution hazards in figure 4-3b, we see that for the Multiple Relationship, Fertility Driven Transitions and the Multi-Partner Fertility classes dissolution hazard climbs steeply in the first few months of a relationship with peaks of 0.05 (at 20 months), 0.042 (22 months) and 0.033 (31 months) respectively. The dissolution hazard for the Traditional class has a flatter trajectory with a slow climb to a peak hazard of .018 at 47 months. The Pre-Cohabitation

Fertility class has the flattest trajectory with the hazard reaching approximately 0.05 at the end of the observation window (178 months).

Table A-9: Parametric Event History Analysis for respondent variables by Class

	Full sample		Traditional		Shared Family		Multiple relationship		Fertility Driven Transitions		Multiple Partner Fertility	
	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution
Non-Hispanic Black	0.576*** (0.059)	-0.307*** (0.050)	0.477*** (0.088)	-0.324*** (0.080)	0.455*** (0.099)	-0.389*** (0.111)	0.446** (0.158)	0.007 (0.085)	0.386* (0.153)	-0.172 (0.246)	0.396 (0.268)	-0.303** (0.096)
Hispanic	0.336*** (0.059)	0.080 (0.052)	0.153 (0.086)	-0.100 (0.086)	0.517*** (0.093)	0.074 (0.110)	0.232 (0.163)	0.140 (0.086)	-0.079 (0.150)	-0.230 (0.234)	0.041 (0.255)	0.092 (0.105)
Non-Hispanic Other	0.310** (0.119)	-0.136 (0.103)	0.328* (0.154)	-0.146 (0.137)	0.162 (0.217)	-0.033 (0.245)	0.256 (0.309)	0.289 (0.210)	-0.200 (0.296)	-0.141 (0.539)	0.274 (0.515)	-0.067 (0.208)
Relationship Number	-0.109*** (0.026)	0.325*** (0.019)	-0.200 (0.110)	0.716*** (0.093)	0.021 (0.095)	1.110*** (0.098)	-0.440*** (0.070)	0.446*** (0.029)	-1.008*** (0.214)	1.078*** (0.230)	-0.465** (0.143)	0.496*** (0.037)
Age Relationship Started	-0.051*** (0.007)	-0.008 (0.006)	-0.011 (0.010)	-0.032** (0.010)	-0.020 (0.013)	-0.106*** (0.015)	-0.064*** (0.019)	-0.026* (0.011)	-0.020 (0.024)	-0.004 (0.038)	-0.126*** (0.030)	-0.070*** (0.013)
Religiosity Index	-0.114*** (0.022)	-0.058** (0.021)	-0.125*** (0.031)	-0.033 (0.031)	-0.068 (0.039)	0.009 (0.047)	-0.128* (0.059)	-0.100** (0.034)	-0.052 (0.061)	0.012 (0.119)	-0.133 (0.112)	-0.053 (0.044)
Enrolled in College	0.094* (0.046)	0.053 (0.035)	0.158** (0.061)	0.088 (0.062)	0.060 (0.094)	0.039 (0.101)	0.166 (0.110)	0.034 (0.054)	0.015 (0.141)	0.302 (0.211)	-0.418 (0.216)	-0.029 (0.085)
Has High School Degree	-0.157** (0.054)	0.151*** (0.038)	0.163 (0.094)	0.178* (0.088)	-0.137 (0.084)	0.112 (0.085)	-0.020 (0.146)	0.057 (0.064)	-0.109 (0.130)	-0.171 (0.211)	-0.401* (0.192)	0.099 (0.067)
Has Bachelor's Degree	-0.055 (0.056)	0.343*** (0.057)	-0.023 (0.067)	0.248*** (0.072)	-0.001 (0.138)	0.281 (0.181)	-0.221 (0.145)	0.236* (0.099)	0.020 (0.228)	-0.223 (0.465)	-0.593 (0.539)	0.151 (0.269)
Hours worked in Month	0.001*** (0.000)	0.001*** (0.000)	0.001** (0.000)	0.001*** (0.000)	0.001* (0.000)	0.000 (0.000)	0.001** (0.000)	0.001*** (0.000)	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.000)
Household Income	0.032*** (0.008)	0.148*** (0.009)	0.061*** (0.012)	0.140*** (0.012)	0.004 (0.023)	0.140*** (0.019)	-0.011 (0.021)	0.134*** (0.014)	0.099*** (0.028)	0.096 (0.050)	0.023 (0.034)	0.128*** (0.018)
Household Income Squared	-0.001** (0.000)	-0.004*** (0.000)	-0.001** (0.001)	-0.004*** (0.001)	0.001 (0.002)	-0.005*** (0.001)	0.000 (0.001)	-0.002*** (0.000)	-0.001** (0.000)	-0.001 (0.001)	-0.001 (0.001)	-0.005*** (0.001)
Income at Start of Relationship	-0.079*** (0.013)	0.061*** (0.016)	-0.082*** (0.020)	0.004 (0.025)	-0.019 (0.037)	0.054 (0.038)	-0.122** (0.040)	0.094** (0.029)	-0.107 (0.079)	0.153 (0.108)	-0.083 (0.054)	0.050 (0.029)
Income at Start of Relationship Squared	0.003*** (0.001)	-0.002** (0.001)	0.002 (0.001)	-0.000 (0.002)	-0.000 (0.004)	-0.004 (0.003)	0.007** (0.002)	-0.004* (0.002)	0.009 (0.008)	-0.017 (0.012)	0.003 (0.002)	-0.001 (0.001)
Shared Pregnancy	-0.460*** (0.042)	0.520*** (0.042)	-	-	-0.351*** (0.063)	0.733*** (0.096)	-1.561*** (0.176)	-0.142 (0.122)	-1.465*** (0.146)	-0.109 (0.152)	-0.063 (0.156)	0.562*** (0.065)
Non-Shared Child Present	-0.024 (0.053)	0.333*** (0.039)	0.036 (0.079)	0.277*** (0.077)	-0.046 (0.083)	1.513*** (0.323)	-0.331** (0.116)	0.499*** (0.063)	-0.020 (0.151)	-0.312 (0.207)	-0.787*** (0.187)	0.425*** (0.079)
Shared Child Present	0.360*** (0.044)	1.002*** (0.035)	0.277* (0.120)	0.545*** (0.109)	-1.287*** (0.254)	1.075*** (0.075)	-1.031 (0.587)	0.806 (0.452)	-1.336*** (0.174)	-0.559* (0.240)	-0.091 (0.149)	0.828*** (0.066)
Blended Family	-0.074 (0.081)	-0.180** (0.063)	-0.145 (0.246)	0.258 (0.224)	-	-1.285*** (0.323)	-	-	-0.580* (0.281)	0.948* (0.446)	-	-0.006 (0.095)
Frailty	4.423*** (0.087)	3.056*** (0.067)	4.359*** (0.114)	4.483*** (0.124)	5.226*** (0.209)	3.874*** (0.216)	3.641*** (0.268)	1.641*** (0.104)	1.761*** (0.269)	4.531*** (0.824)	5.770*** (0.807)	1.735*** (0.123)
Constant	5.499*** (0.219)	2.360*** (0.192)	3.821*** (0.314)	2.230*** (0.347)	6.277*** (0.468)	4.078*** (0.444)	7.655*** (0.630)	2.676*** (0.315)	5.668*** (0.604)	0.825 (1.346)	10.112*** (1.143)	3.244*** (0.394)
Observations	179,547	179,547	57,496	57,496	48,085	48,085	33,603	33,603	3,158	3,158	37,205	37,205
Number of groups	5,073	5,073	2,436	2,436	896	896	833	833	287	287	621	621
Number of Failures	2118	4392	1022	971	374	437	325	1572	227	81	170	1331
Average F	28.45	104.7	7.310	17.30	5.708	21.51	7.785	37.57	6.639	2.123	4.856	31.32
Average p-value for F	0	0	0	0	0	0	0	0	0	0.000397	0	0

Table A-10: Parametric Event History Analysis for Respondent and Partner variables by Gender by Class

	Full sample		Traditional		Shared Family		Multiple relationship		Transitions		Fertility	
	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution
Male Partner is Non-Hispanic Black	0.230** (0.083)	-0.012 (0.048)	0.138 (0.135)	-0.048 (0.085)	0.307* (0.155)	-0.241 (0.148)	0.228 (0.189)	0.005 (0.083)	-0.022 (0.190)	-0.060 (0.214)	-0.063 (0.275)	0.171 (0.094)
Male Partner is Hispanic	0.128 (0.070)	0.042 (0.065)	0.052 (0.096)	-0.056 (0.102)	0.254* (0.114)	0.029 (0.146)	-0.028 (0.190)	-0.042 (0.110)	-0.142 (0.155)	-0.425* (0.215)	-0.300 (0.234)	0.238* (0.098)
Male Partner is Non-Hispanic Other	0.335* (0.152)	0.013 (0.099)	0.304 (0.203)	-0.120 (0.147)	0.193 (0.209)	0.036 (0.263)	0.242 (0.416)	0.011 (0.174)	-0.626* (0.313)	-0.287 (0.511)	1.239 (0.745)	0.437 (0.225)
Female Partner is Non-Hispanic Black	0.286*** (0.084)	-0.171** (0.056)	0.370** (0.130)	-0.141 (0.091)	0.210 (0.149)	-0.081 (0.151)	-0.074 (0.181)	-0.177 (0.093)	0.290 (0.259)	-0.202 (0.268)	0.190 (0.278)	-0.106 (0.111)
Female Partner is Hispanic	0.154* (0.068)	0.002 (0.061)	0.100 (0.087)	-0.104 (0.107)	0.321** (0.117)	0.172 (0.133)	0.003 (0.189)	-0.123 (0.103)	-0.087 (0.150)	0.113 (0.253)	0.147 (0.266)	0.090 (0.102)
Female Partner is Non-Hispanic Other	0.169 (0.111)	-0.113 (0.113)	0.175 (0.146)	-0.129 (0.153)	0.206 (0.245)	0.124 (0.292)	0.105 (0.271)	0.011 (0.197)	0.035 (0.254)	0.655 (0.591)	0.640 (0.450)	-0.047 (0.185)
Lived in Urban area at 1st Int.	-0.031 (0.048)	-0.123** (0.046)	0.025 (0.065)	-0.136 (0.072)	-0.050 (0.090)	-0.061 (0.105)	-0.119 (0.121)	-0.184** (0.071)	-0.129 (0.127)	-0.268 (0.262)	0.194 (0.241)	-0.161 (0.097)
Relationship Number	-0.174*** (0.025)	0.321*** (0.017)	-0.204 (0.109)	0.628*** (0.090)	-0.005 (0.093)	0.958*** (0.095)	-0.559*** (0.072)	0.411*** (0.025)	-0.969*** (0.209)	1.272*** (0.304)	-0.645*** (0.113)	0.414*** (0.030)
Age at Mother's First Birth	-0.003 (0.004)	0.000 (0.004)	0.002 (0.006)	-0.003 (0.006)	-0.002 (0.008)	-0.004 (0.009)	0.008 (0.013)	-0.006 (0.007)	-0.014 (0.012)	-0.011 (0.020)	-0.030 (0.024)	-0.004 (0.009)
Age at First Sexual Intercourse	-0.041*** (0.009)	0.018* (0.008)	-0.036** (0.013)	0.014 (0.013)	-0.043* (0.018)	0.000 (0.017)	-0.053* (0.026)	0.003 (0.014)	-0.018 (0.023)	0.060 (0.041)	-0.071 (0.050)	0.049** (0.017)
Male Partner Age	-0.003 (0.005)	0.015*** (0.004)	0.012 (0.007)	0.004 (0.007)	-0.001 (0.010)	-0.017 (0.011)	-0.007 (0.014)	0.005 (0.008)	0.031* (0.015)	0.034 (0.022)	-0.011 (0.029)	-0.021* (0.009)
Female Partner Age	-0.026*** (0.006)	-0.003 (0.005)	-0.016 (0.009)	-0.008 (0.009)	-0.004 (0.013)	-0.043** (0.014)	-0.023 (0.014)	-0.015 (0.008)	-0.077*** (0.023)	0.034 (0.040)	-0.041 (0.026)	-0.022* (0.010)
Lived in North Central Region at First Interview	-0.285*** (0.060)	0.006 (0.056)	-0.233** (0.076)	0.178* (0.083)	-0.268* (0.110)	0.105 (0.133)	-0.359* (0.168)	-0.137 (0.092)	-0.214 (0.165)	-0.122 (0.263)	-0.268 (0.278)	0.008 (0.114)
Lived in South at First interview	-0.481*** (0.058)	0.013 (0.054)	-0.447*** (0.078)	0.045 (0.080)	-0.352*** (0.107)	0.033 (0.120)	-0.561*** (0.166)	-0.063 (0.090)	-0.419** (0.146)	-0.122 (0.225)	-0.327 (0.246)	0.180 (0.104)
Lived in West at First Interview	-0.248*** (0.063)	0.111 (0.058)	-0.145 (0.083)	0.242** (0.087)	-0.533*** (0.117)	-0.071 (0.133)	-0.254 (0.176)	0.100 (0.097)	-0.290 (0.159)	-0.002 (0.308)	-0.018 (0.314)	0.034 (0.122)
Lived in Step-Parent Family at First Interview	0.103 (0.056)	-0.100 (0.053)	0.018 (0.077)	-0.019 (0.084)	-0.027 (0.099)	-0.114 (0.117)	0.141 (0.153)	-0.063 (0.086)	0.502*** (0.141)	0.284 (0.221)	-0.477 (0.259)	0.077 (0.109)
Lived in Single Parent Family at First Interview	0.156*** (0.047)	-0.112** (0.043)	0.139* (0.064)	0.010 (0.065)	0.024 (0.078)	-0.042 (0.096)	-0.004 (0.121)	-0.049 (0.069)	-0.086 (0.123)	0.015 (0.254)	0.229 (0.233)	-0.110 (0.092)
Lived in Other Parent Family at First Interview	0.044 (0.083)	0.008 (0.075)	-0.068 (0.122)	0.167 (0.124)	-0.031 (0.136)	0.459* (0.179)	0.044 (0.244)	-0.099 (0.127)	-0.516* (0.203)	-0.426 (0.339)	0.504 (0.384)	-0.053 (0.139)
Mother has High School Degree	0.018 (0.051)	-0.122** (0.045)	0.060 (0.082)	-0.109 (0.082)	-0.053 (0.080)	0.009 (0.095)	-0.216 (0.155)	-0.071 (0.078)	0.098 (0.133)	0.028 (0.224)	0.348 (0.212)	-0.043 (0.085)
Mother has Bachelor's Degree	0.017 (0.073)	-0.140* (0.070)	0.054 (0.103)	-0.231* (0.109)	-0.110 (0.155)	-0.041 (0.194)	-0.301 (0.217)	0.030 (0.116)	0.071 (0.214)	0.349 (0.420)	0.177 (0.463)	-0.243 (0.205)
Religiosity Index	-0.105*** (0.022)	-0.080*** (0.022)	-0.125*** (0.031)	-0.050 (0.029)	-0.084* (0.039)	0.002 (0.046)	-0.073 (0.063)	-0.081* (0.034)	-0.044 (0.060)	0.023 (0.100)	-0.060 (0.112)	-0.082 (0.044)
Enrolled in College	0.072 (0.046)	0.041 (0.035)	0.139* (0.060)	0.074 (0.062)	0.054 (0.095)	0.067 (0.103)	0.138 (0.112)	0.018 (0.053)	0.064 (0.143)	0.189 (0.233)	-0.394 (0.222)	-0.037 (0.085)

Table A-10 Cont.

	Full sample		Traditional		Shared Family		Multiple relationship		Transitions		Fertility	
	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution	Marriage	Dissolution
Male Partner has High School Degree	-0.188*** (0.047)	0.016 (0.037)	0.005 (0.073)	0.063 (0.072)	-0.172* (0.082)	-0.151 (0.089)	-0.040 (0.115)	0.022 (0.053)	-0.287* (0.125)	0.023 (0.185)	-0.088 (0.216)	-0.184* (0.079)
Male Partner has Bachelor's Degree	-0.130* (0.066)	0.019 (0.063)	-0.014 (0.078)	0.197* (0.091)	-0.230 (0.171)	-0.358* (0.179)	-0.232 (0.163)	-0.012 (0.108)	0.277 (0.237)	0.003 (0.286)	-0.170 (0.413)	-0.363** (0.128)
Female Partner has High School Degree	-0.111* (0.046)	0.095* (0.039)	0.068 (0.069)	0.180** (0.069)	-0.075 (0.085)	0.106 (0.086)	-0.143 (0.136)	0.113 (0.068)	0.085 (0.119)	-0.238 (0.210)	-0.387* (0.194)	-0.006 (0.065)
Female Partner has Bachelor's Degree	-0.141* (0.059)	0.166** (0.061)	0.001 (0.073)	0.164* (0.079)	-0.071 (0.144)	0.303 (0.224)	-0.174 (0.151)	0.154 (0.086)	-0.152 (0.218)	-0.564 (0.412)	-0.655 (0.395)	-0.250 (0.166)
Male Partner Works Full Time	0.043 (0.044)	0.171*** (0.031)	0.113 (0.067)	0.212** (0.066)	0.066 (0.076)	0.235*** (0.066)	-0.003 (0.130)	0.134** (0.050)	-0.045 (0.124)	-0.011 (0.205)	-0.046 (0.164)	0.115* (0.056)
Male Partner Works Part Time	0.074 (0.060)	0.016 (0.036)	0.171 (0.088)	0.087 (0.070)	0.210* (0.098)	0.081 (0.096)	0.048 (0.167)	0.017 (0.060)	0.098 (0.169)	0.201 (0.265)	-0.073 (0.198)	-0.070 (0.068)
Female Partner Works Full Time	0.087* (0.038)	0.006 (0.031)	0.118* (0.060)	0.071 (0.055)	-0.012 (0.067)	-0.129 (0.075)	0.053 (0.105)	0.034 (0.055)	0.132 (0.097)	0.116 (0.168)	0.021 (0.144)	-0.060 (0.057)
Female Partner Works Part Time	0.100* (0.042)	-0.001 (0.030)	0.160* (0.067)	0.040 (0.066)	-0.026 (0.066)	-0.133 (0.078)	0.054 (0.115)	-0.017 (0.052)	0.177 (0.120)	-0.033 (0.153)	-0.143 (0.148)	0.039 (0.058)
Female Partner's Income Squared	0.053*** (0.016)	0.146*** (0.012)	0.077*** (0.018)	0.139*** (0.019)	0.030 (0.038)	0.168*** (0.033)	-0.024 (0.063)	0.151*** (0.023)	0.055 (0.091)	0.018 (0.103)	-0.030 (0.093)	0.163*** (0.037)
Female Partner's Income Squared	-0.001 (0.002)	-0.005*** (0.001)	-0.003* (0.001)	-0.004** (0.001)	0.004 (0.006)	-0.017** (0.006)	0.012 (0.012)	-0.005*** (0.001)	0.034 (0.029)	0.002 (0.007)	0.008 (0.016)	-0.021** (0.007)
Male Partner's Income Squared	0.018* (0.009)	0.131*** (0.009)	0.045** (0.014)	0.099*** (0.015)	0.004 (0.024)	0.118*** (0.023)	-0.035 (0.024)	0.127*** (0.016)	0.057 (0.031)	0.083 (0.097)	-0.012 (0.039)	0.126*** (0.020)
Male Partner's Starting Income Squared	-0.000 (0.000)	-0.004*** (0.001)	-0.001 (0.001)	-0.003*** (0.001)	0.001 (0.002)	-0.004** (0.001)	0.001 (0.001)	-0.003*** (0.001)	-0.001 (0.001)	0.004 (0.017)	-0.000 (0.001)	-0.004*** (0.001)
Female Partner's Starting Income Squared	-0.028 (0.027)	0.069** (0.026)	-0.030 (0.038)	0.031 (0.040)	0.032 (0.065)	-0.002 (0.072)	-0.082 (0.079)	0.095* (0.041)	-0.026 (0.135)	0.107 (0.146)	-0.070 (0.120)	0.046 (0.074)
Female Partner's Starting Income Squared	-0.003 (0.004)	-0.009*** (0.002)	-0.006 (0.005)	-0.011 (0.006)	-0.000 (0.014)	0.007 (0.018)	0.012 (0.016)	-0.013** (0.004)	0.010 (0.044)	-0.023 (0.015)	0.003 (0.017)	0.008 (0.008)
Male Partner's Starting Income Squared	-0.087*** (0.015)	0.065*** (0.016)	-0.075** (0.027)	0.048 (0.030)	-0.007 (0.041)	0.045 (0.041)	-0.117* (0.047)	0.098* (0.041)	-0.145* (0.073)	0.109 (0.123)	-0.111 (0.062)	0.052 (0.027)
Male Partner's Starting Income Squared	0.003*** (0.001)	-0.003* (0.001)	0.002 (0.003)	-0.005 (0.003)	-0.008 (0.006)	-0.005 (0.003)	0.008* (0.004)	-0.006* (0.003)	0.016* (0.008)	0.002 (0.029)	0.004* (0.002)	-0.001 (0.002)
Pregnant with Shared Child	-0.448*** (0.042)	0.512*** (0.042)	-	-	-0.342*** (0.065)	0.713*** (0.098)	-1.527*** (0.184)	-0.135 (0.123)	-1.445*** (0.139)	-0.159 (0.142)	-0.045 (0.157)	0.530*** (0.066)
Non-Shared Child Present	-0.044 (0.053)	0.300*** (0.039)	0.033 (0.079)	0.219** (0.079)	-0.048 (0.086)	1.395*** (0.319)	-0.373** (0.117)	0.481*** (0.063)	-0.044 (0.157)	-0.458 (0.256)	-0.857*** (0.187)	0.366*** (0.079)
Shared Child Present	0.367*** (0.046)	0.998*** (0.036)	0.304* (0.120)	0.499*** (0.112)	-1.367*** (0.270)	1.018*** (0.079)	-1.057 (0.597)	0.769 (0.460)	-1.318*** (0.170)	-0.515* (0.228)	-0.063 (0.152)	0.799*** (0.068)
Blended Family	-0.066 (0.081)	-0.157* (0.064)	-0.186 (0.241)	0.288 (0.229)	-	-1.180*** (0.319)	-	-	-0.391 (0.269)	0.849 (0.504)	-	-0.013 (0.095)
Frailty	4.431*** (0.088)	3.065*** (0.067)	4.369*** (0.114)	4.551*** (0.125)	5.219*** (0.212)	3.869*** (0.218)	3.756*** (0.299)	1.656*** (0.105)	1.918*** (0.283)	4.353*** (0.733)	5.729*** (0.726)	1.629*** (0.125)
Constant	5.254*** (0.232)	1.859*** (0.194)	3.563*** (0.325)	1.528*** (0.356)	6.159*** (0.503)	3.285*** (0.457)	7.425*** (0.687)	2.532*** (0.319)	6.339*** (0.645)	-0.711 (1.167)	9.059*** (1.183)	2.671*** (0.418)
Observations	179,547	179,547	57,496	57,496	48,085	48,085	33,603	33,603	3,158	3,158	37,205	37,205
Number of groups	5,073	5,073	2,436	2,436	896	896	833	833	287	287	621	621
Number of Failures	2118	4392	1022	971	374	437	325	1572	227	81	170	1331
Average F	17.17	58.01	4.995	9.461	3.705	12.47	4.596	20.70	5.102	1.550	3.092	18.20
Average p-value for F	0	0	0	0	0	0	0	0	0	0.0135	0	0





### *Traditional Class*

Race plays a fairly consistent role in the Traditional class, with Non-Hispanic Blacks experiencing a longer time to marriage and a shorter time to dissolution. Dividing the variables by gender reveals that Non-Hispanic Black women have a longer time to marriage whilst controlling for partners race. Hispanics have a longer time to marriage as compared to non-Hispanic Whites, as do non-Hispanic others. Relationship number decreases time to marriage and increases time to dissolution, while the age that the relationship started decreases time to both dissolution and marriage. Living in the north-central region or south at first interview was associated with decreased time to marriage, while living in the north-central region or west was associated with increased time to dissolution. The respondent's mother having a bachelor degree was associated with shorter times to dissolution.

Among our dynamic variables, being enrolled in college increased time to marriage, without effecting time to dissolution. For respondents, both high school and bachelor's degrees increase time to dissolution, with college degree having the larger coefficient. Looking at the variables by gender, female partners having high school and college degrees increase time to dissolution, whereas only college degree matters for the male partner. As there is no effect for relative variables, and the gender variables control for partner's income, educational degree seems to have additive effects in this class; that is each partner's degree has a contribution independent of the other.

Working long hours (controlling for income) is associated with longer cohabitations as it increases time to both marriage and dissolution. Looking at gendered variables, the male partner working full time is associated with longer times to dissolution (compared to being out of the labor force/unemployed) while the female working part time increases time to marriage. When

the female partner works more hours relative to the male, the time to dissolution is decreased (relative to employment status at parity).

Household income increases time to both marriage and dissolution and the negative coefficient for the quadratic term indicates this effect weakens at higher income levels. Both female and male income is associated with increased time to marriage; as the quadratic is not significant for either, this relationship is linear. Male and female income also increases time to dissolution, but this effect is diminished as income grows. When we construct income as a relative variable, both the male partner earning more and the female partner earning more decreases time to dissolution compared to couples at parity. Thus, among the traditional class, rising income promotes longer cohabitation with this effect diminishing as income rises. However, additional analysis shows that the level of income at the start of the relationship decreases time to marriage, with this effect being found for household, male and female income.

As indicated by the summary statistics, there were no pregnancies amongst this group, therefore this variable was omitted. Having a shared child present increase the time to both marriage and dissolution, an effect which holds across all three models. A non-shared child increases the time to dissolution for both the respondent and gendered models, but has no effect for the relative variable model.

### ***Shared Family Class***

There are strong and clear effects of race in the Shared Family Class, with Non-Hispanic Black respondents having increased time to marriage and decreased time to dissolution, while Hispanic respondents have an increased time to marriage. Males who are non-Hispanic Black and Hispanic have an increased time to marriage as do female Hispanics. When looking at relative variables, it

is clear that when both partners are non-Hispanic White, they have a distinct advantage over all other couples when it comes to transitioning to marriage.

Higher order relationships are associated with increased time to dissolution while older age at first sex is associated with shorter times to marriage. Those in the north east (the reference group) had an increased time to marriage compared to all other regions. Those who lived in an Other parent family at first interview had an increased time to dissolution, a result which held through all three models. Mother's education had no effect through all three models, while religiosity decreased time to marriage in two out of three models.

There was no effect of college enrolment and respondent's education had no effect. Dividing education up by gender shows that when the male partner has a high school degree, time to marriage decreases, but when he has a bachelors, time to dissolution decreases. When the male partner has the higher education, time to dissolution is decreased as compared to couples at parity. Increasing hours worked increases time to marriage and looking at our gendered analysis shows that this is driven by males working full time. When the male partner works part time, time to marriage increases compared to men who are out of the labor force. There is no effect for relative work status.

Household income increases the time to dissolution with this effect decreasing as income rises, with the same pattern observed for male and female incomes. When male income is higher relative to female income, time to dissolution increases. Thus, it seems that male's socioeconomic status plays a greater role in relationship outcomes among this group, as suggested by the summary statistics. When looking at starting income, male's income decreases time to marriage, with no effects for dissolution.

It is clear that fertility variables play a large role in transition timing among this group. Those who are pregnant have a shorter time to marriage and a longer time to dissolution, while having a shared child present has the same effect. However, the coefficient for time to marriage is

almost four times greater in magnitude for child present as opposed to pregnancy. Having a non-shared child present increases time to dissolution, while having a blended family increases time to dissolution.

### ***Multiple Relationship Class***

In the Multiple Relationship group, there are inconsistent effects of race, with Non-Hispanic Blacks having increased time to marriage, female non-Hispanic Blacks have a decreased time to dissolution and mixed race couples having a decreased time to dissolution. Those from urban areas have a decreased time to dissolution and higher order relationships are more likely to be successful. Age at first intercourse and age when relationship started both decrease time to marriage, as does living in the north central or southern regions. Family of origin variables have no effect.

For respondents, a bachelor's degree is associated with increased time to dissolution. Male education plays an important role in transitions for this class, with the male partner having a high school degree associated with decreased time to marriage, whereas gaining a bachelors increases time to dissolution. When converted to relative variables, the male partner having the higher education results in less time to dissolution. Respondent work hours increases the length of cohabitation by delaying both transition types, while the male partner working full time discourages dissolution. Egalitarian relationships are more stable with both males and females working more than the other decreases time to dissolution.

Increasing household income delays dissolution, but has no effect upon marriage odds, and our gendered variables show that both male and female income increases time to dissolution, although all these effects lessen as income increases. Relative income show that relationships last longer when the male partner is earning more. When starting income was included household

income decreased the time to marriage and lengthened the time to dissolution. Male start income decreased time to marriage, with no effect on dissolution. Thus, relationships are most stable when both men and women work similar hours, but the male partner earns more from his job. Starting income also plays a large role in decreasing time to marriage, with male income having an independent effect.

Shared pregnancy reduces time to marriage among the Multiple Relationship class, while having a non-shared child present increases the length of the cohabitation. Shared children have no effect, as very few relationships have a shared child present.

### ***Fertility Driven Transitions Class***

As in the Multiple Relationship class, race effects are inconsistent in the Fertility Driven Transitions class. Non-Hispanic Blacks have a longer time to marriage, while male Hispanics have a quicker time to dissolution and male non-Hispanic others have a decreased time to marriage. There is no effect on relative variables. This is the only class for which age and first sex and age relationship started have no effect on either transition timing. Those in the south at first interview have a quicker time to marriage as do those raised in other parent households. Those from step-parent families have a longer time to marriage compare to those from two parent biological families.

Of the education and work variables, only one obtains significance, with male partner's having a high school degree associated with a shorter time to marriage. Higher household income promotes longer cohabitations, while only male income is related to increased time to dissolution. Couples where the female partner makes more money are more likely to end quickly than those who have equal incomes. There is no effect for starting income. While some variables are

significant, additional analyses show that socioeconomic variables do not significantly improve model fit for any of our model specifications.

Share fertility have a strong effect in this group, as we would expect. Pregnancy decreases the time to marriage as does having a shared child present. Interestingly, having a shared child present also decreases the time to dissolution, strongly suggesting that cohabitation is not a desired relationship form for child-rearing in this class, as they quickly transition to marriage or dissolution when a shared child is present. In two out of three models, having a blended family is associated decreased time to marriage and increased time to dissolution.

### ***Multi-partner Fertility Class***

In the multi-partner fertility class, there is no effect for race on marriage timing in any of our model specifications. For dissolution, non-Hispanic black respondents have a decreased time to dissolution with no independent gender effects. Hispanic males have an increased time to dissolution, as do relationships where both partners are Hispanic. Mixed race couples have a shorter time to dissolution, while there were not enough mixed race couples who married to generate an estimate.

Age at first sex is associated with greater time to dissolution, while age relationship started is associated with quicker transitions to both marriage and dissolution. Gendered analysis reveals that both male and female age decreases time to dissolution, while male age compared to female age also decreased time to dissolution. Region, mother's education and religiosity all have no effect on transition timing. For the marriage, only relationship number, the age the relationship started, high school degree and having a non-shared child present is significant when predicting marriage hazard; all four variables decrease time to marriage. In our gendered model the high school effect on marriage timing is driven by the female partner. Male education is

associated with shorter times to dissolution as is higher male education compared to females. A male working full time increases time to dissolution, while the female working more hours is associated with shorter dissolution times. All income variables provide a protective effect against dissolution, while the male partner earning more also protects against dissolution.

Fertility variables play a large part in transition timing for this class, with shared pregnancy, shared children and non-shared children all delaying dissolution timing. Having a non-shared child present decreased time to marriage. These effects were stable across all model specifications.



# Brett A. Beattie

Department of Sociology  
211 Oswald Tower  
The Pennsylvania State University  
University Park, PA 16802

Phone: (814) 321-5815  
Email: [brett.beattie@gmail.com](mailto:brett.beattie@gmail.com)  
Updated September 2015

---

## EDUCATION

- |      |                     |  |                                       |
|------|---------------------|--|---------------------------------------|
| 2015 | Ph.D.<br>(Expected) | <b>Sociology and Demography</b><br>Dissertation: An event history analysis of premarital cohabitation transitions and divergent relationship pathways.<br>Committee: Paul Amato (Chair), David Johnson, Valarie King, David Eggebeen | <b>Pennsylvania State University</b>  |
| 2010 | M.A.                | <b>Sociology</b><br>Thesis: Predictors of Marriage and Dissolution Amongst Cohabiting Couples<br>Committee: Paul Amato (chair), Valerie King, David Johnson  | <b>Pennsylvania State University</b>  |
| 2006 | B.A. (Honours)      | <b>Sociology</b><br>Honours' Thesis: The Rising Rate of Cohabitation: Causes in a Changing Society   | <b>Flinders University, Australia</b> |
| 2005 | B.A.                | <b>Sociology and Philosophy</b>  | <b>Flinders University, Australia</b> |

---

## Research Interests

Marriage and Cohabitation, Quantitative Methods, Economics and Relationship Quality/Dissolution, Macro Constraints on the Family

---

## Peer Reviewed Articles

- Amato, Paul R., Sarah Patterson and **Brett A. Beattie**, 2015, "Single-parent households and children's educational achievement: A state-level analysis", *Social Science Research*, 53, 191-202
- James, Spencer L. and **Brett A. Beattie**, 2012, "Reassessing the Link Between Women's Premarital Cohabitation and Marital Quality", *Social Forces*, 91(2), 635-662
- Amato, Paul R. and **Brett Beattie**. 2011. "Does the Unemployment Rate Affect the Divorce Rate? An Analysis of State Data 1960-2005." *Social Science Research*, 40(3), 705-1018

---

## Manuscripts Under Review

- Alwin, Duane F. and **Brett A. Beattie**, "Survey Question Length and Data Quality" *Sociological Methods & Research*, Revise and Resubmit
- Beattie, Brett A.**, "Relationship Transitions Among Young Cohabitors: Predicting Marriage or Dissolution as Competing Risks"
- Alwin, Duane F., **Beattie, Brett A.**, Powell, Erin M., and Hannah, Lee, "A Legacy of Slavery or the Role of Religion? Race, Religion and Parental Child-Rearing Values"
-