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**YOUNG WOMEN, FAMILY FORMATION EXPERIENCES AND
SUBSEQUENT WELL-BEING**

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Abstract

While there has been much research on demographic and personal predictors of family formation experiences that occur through the early twenties, most studies have not examined family formation experiences occurring through the late twenties and early thirties. It is unknown which pathways (which take into account the ordering and sequencing of marriage, cohabitation, and childbearing events) are most common when following women through these later ages, and it is unknown how these longer pathways are associated with young women's well-being. It is also unknown how multiple partner transitions are associated with well-being. Using waves one and four of the National Longitudinal Study of Adolescent Health, this project documents the family formation pathways that exist for young women between adolescence and age twenty-nine, and examines the association between these pathways and health and risky behavior outcomes. The link between the number of transitions into and out of marriage and cohabitation and well-being outcomes is also explored.

In a sample of 4,099 women, nine pathways of family formation were found: delayed starters (20%), cohabitators (13.5%), early single mothers (12.4%), married mothers with premarital cohabitation (11.7%), early married mothers (10.7%), married mothers (10.5%), single mothers (8.9%), cohabiting mothers who later marry (6.5%), and marrieds (5.6%). Those who followed pathways involving non-marital motherhood (early single mothers, single mothers, and cohabiting mothers who marry later) experienced the greatest declines in delinquency over time. Young women who became delayed starters or cohabitators (i.e pathways that did not involve marriage or motherhood (regardless of marriage)), experienced significant increases in heavy drinking, and those who became cohabiting moms who married later experienced a greater decline in heavy decline than all other groups.

Young women who had fewer union breakups did better on some outcomes (less depression) than those with many union breakups, but did worse on other outcomes (less of a decline in delinquency) compared to those with many transitions. Those who were currently in unions during their late twenties / early thirties sometimes had better outcomes (less depression & less heavy drinking), and young women who were currently broken up from a union did worse on some outcomes (heavier drinking). Young women with zero unions were also sometimes worse off compared to others (heavier drinking than those were currently in unions by young adulthood).

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Chapter 1

Introduction

The transition to adulthood has become more lengthy in recent decades, compared to mid-century, with a greater proportion of young adults continuing their education (particularly women), trying out different jobs, exploring multiple romantic relationships, and devoting more time to personal growth (Arnett, 2004; Settersten, Furstenberg, Rumbaut, 2005). Increased need for a college degree in the labor market, greater social acceptance of premarital sex, increase in expressive individualism, and fewer social expectations for settling down by one's early 20s have contributed to these changes, as well as later ages, on average, for marriage and childbearing, higher rates of cohabiting with romantic partners, and higher rates of non-marital births (Bumpass, Sweet, & Cherlin, 1991; Casper & Bianchi, 2002; Cherlin, 2009; Cherlin, 2000; Furstenberg, 2010; Raley, 2001; Teachman, Tedrow, & Crowder, 2000).

As a result, there is no longer a universal path towards family formation that is experienced by virtually all young adults during their late teens and twenties (Schoen, Landale, & Daniels, 2007). In this study, "family formation" refers to experiences regarding parenthood, cohabitation, and marriage, and any combination of the three. Changes in how all three have been experienced over the past several decades have been documented by family demographers. The median age at first marriage, for example, has risen from age 20 to 26 for women between 1960 and 2006. For men, median age at first marriage increased from ages 23 to 28. (Scott, Schelar, Manlove, & Cui, 2009). Alongside, 88% of young adults today view marriage as being an important part of life, and report that they would like to get married someday, however they're entering marriage at later ages (Scott et al., 2009).

Cohabitation trends have also changed. In 1960 there were roughly 90 married couples for every one cohabiting couple, but by 2010 roughly 7 married couples existed for every one cohabiting couple (U.S. Bureau of the Census). Percent of all births in the U.S. to unmarried women has also increased in recent decades, from 5.3% in 1960 to 38% in 2005 (Child Trends, 2010). This rise in non-marital births has occurred in conjunction with the increased prevalence of cohabitation. For instance, the percent of all births to cohabiting couples has increased from 11% in 1990-1994 to 18% in 2001 (Bumpass & Lu, 2000; Kennedy & Bumpass, 2008). By 2001 roughly half of all non-marital births occurred to cohabiting women (Wildsmith, Steward-Streng, & Manlove, 2011).

In addition, the number of marital and cohabiting unions experienced by adults has also increased. For marriages, the divorce rate has increased from roughly 9 divorces per 1,000 married women in 1960 to around 19 divorces per 1,000 married women in 1997 (Bianchi & Casper, 2000). With this, the remarriage rate has increased from roughly 32 remarriages per 1,000 divorced and widowed women in 1960 to roughly 38 remarriages per 1,000 divorced and widowed women in 1990. Serial cohabitation, or the act of entering at least one additional cohabitation after a previous one has ended, has also increased in recent decades (Lichter & Qian, 2008). Women in their late teens and twenties during the 1998-2002 period had 97% greater odds of experiencing serial cohabitation than women within the same age range during the 1988-1992 period (Cohen & Manning, 2009). Among women of all ages, 5% engaged in serial cohabitation during the 1988-1992 period compared to 14% who serially cohabited during 1998-2002.

In short, there are a variety of ways in which young adults form families today compared to several decades ago. Some young women have children, and others do not. Some of these

children are born within marriage, some within cohabiting unions, and some are born to single mothers. Some young adults cohabit and then marry their cohabiting partner later, while others marry early without any prior cohabitation. Some experience all three – cohabitation, marriage, and parenthood, but the events may occur in different orders and at different ages. And still, many do not enter parenthood, cohabitation, or marriage at all until their late twenties, thirties, or later. At the same time, two people may have experienced cohabitation, or marriage, at some point during their twenties, but one may have cohabited just once while the other may have cohabited with four different partners.

Few studies, however, have examined the family formation process experienced by young adults as they age from adolescence through their late twenties and early thirties. Instead, more research has focused on the family formation process as it's occurring through the early twenties only (e.g., Amato & Kane, 2011; Amato et al., 2008; Booth, Rustenbach, & McHale, 2008; Horwitz & White, 1998; MacMillan & Copher, 2005; Mastekaasa, 2006; Schoen, Landale, & Daniels, 2007). Following trends in family formation and their associations with young adult outcomes through the late twenties and early thirties is important because it gives a more complete account of all the cohabitations, marriages, and births in young adults' lives. Furthermore, fewer respondents during their early twenties have had time to experience these potential multiple union transitions and therefore less variation would exist within the number of marital and cohabiting unions, an aspect of young adult family formation today that is important to take into account. Studies that have followed this process through a later time point typically examined just pieces of the family formation process, such as differences in marrieds versus cohabitators (e.g., Brown, 2000), or effects of marriage on well-being (e.g., Bierman, Fazio, & Milkie, 2006; Coombs, 1991; Waite, 1995), or differences in single versus married motherhood

(e.g., Avison, Ali, & Walters, 2007; Nomaguchi & Milkie, 2003; Taylor, 2009), with such studies oftentimes failing to account for the occurrence of cohabitation, marriage, and parenthood in relation to one another and the ordering in which they occur. The timing and sequencing of cohabitations, marriages, and motherhood are important to acknowledge because the number of different types of pathways has increased, and each pathway of experiences would likely affect individuals' personal well-being differently.

The current study addresses this limitation and builds upon prior research by addressing the following questions: (1) What are the pathways of family formation experienced by females between adolescence and the late twenties? (2) How do different pathways towards family formation affect young women's subsequent well-being in young adulthood? And, (3) How does the number of transitions into and out of marriage and cohabitation affect young women's subsequent well-being?

To address these questions, the study uses data from waves one and four of the National Longitudinal Study of Adolescent Health (Add Health). The recent fourth wave of Add health (2008) consists of respondents in their mid-to-late twenties and early thirties, allowing the study to follow young women from adolescence through a later stage of young adulthood than previous studies have examined. Women are chosen as the focus of this study due to the fact that early parenthood may have more negative consequences for girls than boys, and because fertility histories tend to be more accurately reported by female respondents (Schoen, Landale, & Daniels, 2007). The effects of both the pathways and the number of union transitions are examined because each adds extra information. Pathways are unique in that they show the order in which young women experience these events, such as cohabitation first, and then marriage second followed by motherhood last. The total number of entrances into and exits out of

marriages and cohabitations, however, is another important aspect of the family formation process that needs to be addressed, and is not necessarily identified by each of the pathways. A hypothetical pathway, for example, may suggest that “x” percent of the sample could be viewed as “cohabiting women who become mothers” (or “cohabiting mothers”), but the sheer number of cohabiting unions that these women entered into isn’t known. Therefore, the third research question is asked in order to get a more complete picture of early family formation.

Young adult family-related experiences are important to study because parenthood and union transitions can affect individuals not just when they occur, but also later on in life. From a life course perspective the timing of when life events and transitions occur is important because they may have a developmental impact on the way a person’s future well-being turns out (Elder, 1998; Elder, 2003; George, 1989; George, 1993). Earlier transitions, with “transitions” referring to changes in one’s life that leave her with a new set of role expectations (MacMillan & Copher, 2005), can affect future transitions and personal outcomes because they may put an individual on a path of either negative or positive consequences (although sometimes both do take place) due to opportunities or constraints. An example of such a transition would occur with the experience of childbirth, where a person progresses from the role of nonparent to the role of a parent, and having a child during the teen years has been suggested as being more negative on long term self-rated health than having a child at later ages (Taylor, 2009). Greater susceptibility to depression, poorer self-rated health, and physical health problems among young, single mothers has frequently been suggested (Avison, Ali, & Walters, 2007; Bogat, Caldwell, Guzman, Galasso, & Davidson, 1998), and may be partially explained by having fewer social and economic resources (Avison et al., 2007; Bogat et al., 1998; Holcombe, Peterson, & Manlove, 2009; Horowitz, Klerman, Kuo, & Jekel, 1991).

A life course perspective also focuses on the sequences of transitions, and how these pathways have implications for personal development (Elder, 1998; Elder, 2003; George, 1993). A 'pathway' refers to the interconnection of roles, and the timing and ordering of several transitions (MacMillan & Copher, 2005). This gives a more complete picture of family formation experiences than looking at a single event. Entering cohabitation, becoming a parent, and then entering marriage, for instance, is one example of a pathway, and may result in very different substantive outcomes for individuals than entering cohabitation, becoming a parent, and never entering marriage. Other examples of pathways are being single and then entering parenthood followed by a marriage, or cohabitation first followed by marriage second and then parenthood third. The life course approach suggests that different experiences regarding cohabitation, childbearing and marriage, and when they take place in relation to one another, has an effect on psychosocial development. Previous work examining pathways and well-being development for young adults in their early twenties, for example, has suggested that young women who follow a "college-no family formation" pathway exhibit significant increases in heavy drinking relative to other pathways, and a decline in delinquency that is smaller than the decline seen by women from all other pathways (Amato & Kane, 2011). Given the suggested link between family formation timing and ordering on social-developmental factors, the current study examines how different family formation experiences, conceptualized as (a) pathways and (b) the number of relationship transitions (into and out of marriage and cohabitation) are associated with health and risky behavior outcomes such as self-rated health, depression, heavy drinking, and delinquency.

This study applies the life course perspective by identifying event sequencing and pathways with regards to cohabitation, marriage, and motherhood. It examines the ages at which these events occur, when the events are occurring in relation to one another, and whether this

timing and sequencing is associated with changes in well-being between waves one (adolescence) and wave four (adulthood) of a nationally representative sample of young women. While it is important to recognize that different subgroups of the population may hold different conceptions of when these family formation events ought to happen, there is likely a general norm for when certain transitions, such as having a child, or entering a marriage, ought to occur. Furthermore, individuals regardless of subgroup identification would still be engaging in transitions seen as early, late, or on-time relative to those around them, and this study examines whether these overall “pathways” are linked to changes in personal well-being. Methodologically, a latent class procedure is used to create these pathways. This procedure identifies which pathways best represent the family formation experiences held by young women today as they age from adolescence through their late twenties.

Before going further into the study’s procedures though it’s important to address the recent research in this area. Chapter two provides background information on studies addressing marriage, cohabitation, motherhood, and their effects on women’s well-being. Chapter two also addresses what little is known about pathways, the number of union entrances and exits, and their links with health and risky behavior indicators. It concludes by discussing how the current study will go beyond previous work, and suggests theoretical motivations for how family formation pathways and the number of union entrances and exits may be linked to each of the individual well-being indicators examined in later chapters.

Chapter 2

Background

Much of the previous work on early family formation experiences is limited in that many studies tend to focus on individual aspects of family formation, such as the effect of getting married or getting divorced, the effect of cohabiting, or the effect of single versus married motherhood, instead of the way family formation as a complete process is experienced. Work on union transitions in particular tends to address only the effects of single transitions such as entering cohabitation, or exiting a marriage, and is less likely to address the effects of experiencing multiple entrances or multiple exits. Previous work though still offers insight into the way these singular transitions are associated with changes in well-being, especially outcomes such as depression, self-rated health, heavy drinking, and behavior problems. Studies that draw from a life course perspective and identify the timing and sequencing of family formation events only examine pathways existing through age twenty-four. But, these studies contribute to our understanding of recent family formation trends for young women by either explaining which demographic and personal characteristics of adolescents tend to be influential in the types of pathways experienced, or exploring the effect of pathways on well-being outcomes such as depression, self-rated health, heavy drinking, and behavior problems, as they present during the early twenties.

Marriage

Much research has demonstrated that differences in family formation events may result in very different subsequent outcomes, with certain experiences impacting well-being more negatively than others, and certain transitions impacting well-being more positively than others. Entering a stable marriage has been one transition generally associated with positive outcomes

throughout much of the literature (Waite, 1995). A decrease in psychological distress, for example, has been suggested to occur for those who enter into marriage compared to those remaining never married (Bierman, Fazio, & Milkie, 2006; Ross, 1995; Williams, Sassler, & Nicholson, 2008). Morbidity and risk for illness tends to be lowest among married individuals, followed by those who have never been married, and then those who are divorced/separated (Coombs, 1991). Never married individuals are also more likely to experience alcohol abuse than those who have entered into their first marriage (Bierman, Fazio, & Milkie, 2006).

Whether marriage brings with it the same benefits to younger adults as it does to older adults has also been examined. Some research has suggested little to no differences in mental health changes during the transition to adulthood between adolescents who marry early and adolescents who do not (Booth, Rustenbach, & McHale, 2008), whereas other research has suggested that early marriage does provide health benefits. Studies that have suggested positive effects of early marriage have shown married young adults as being most likely to report high levels of mental and subjective well-being, followed by cohabiting young adults, then daters, and then lastly those who are not currently dating (Dush & Amato, 2005; Soons & Liefbroer, 2008). Additionally, women who marry early tend to have a greater drop in alcohol use between adolescence and early adulthood compared to women who never marry (Amato & Kane, 2011). Higher levels of social attachment, more emotional support, and greater economic resources among those in more seriously committed relationships have been shown to mediate this association between relationship status and mental and subjective well-being (Soons & Liefbroer, 2008).

Unfortunately, many marriages dissolve soon after they take place. Although some individuals may experience benefits from the breakup of a marriage, particularly when the

marriage came with a high degree of conflict, most studies have generally found a negative effect of divorce on psychological and physical well-being. Those divorced or separated are less likely to feel like they have a purpose in life (Bierman, Fazio, & Milkie, 2006), more likely to be psychologically distressed (Amato, 2000; Liu & Chen, 2006; Mastekaasa, 2006), and more likely to report alcohol abuse than those who are continuously married (Bierman, et al., 2006; Coombs, 1991). Divorce has also been associated with an increase in health problems (Amato, 2000; Meadows, McLanahan, Brooks-Gunn, 2008) and behavioral problems (Amato, 2000). Exiting a marriage has been associated with many mental and physical health problems due a variety of factors such as the loss of economic support, losing a regular companion who once provided daily emotional fulfillment and support, loss of some social contacts, and losing a sense of control (Amato, 2000; Bierman, et al., 2006; Coombs, 1991).

Previous research thus far has suggested that marriage often comes with benefits for adults, such as a decline in depression, sickness, and alcohol abuse compared to those who've never married. Marriage may also be beneficial for young adults, but this evidence is less definitive. Divorce more often than not has been associated with increased health and risky behavior problems, such as greater depression, heavy drinking, delinquency, and worse self-rated health.

Cohabitation

Cohabitation has increasingly become a common form of family formation for young adults. A recent study found that cohabitation was the most commonly experienced transition, more-so than marriage or parenthood, for those under twenty-five years of age (Schoen et al., 2007). Whether or not cohabitation is associated with psychological health has been debated in recent research. Some studies found that cohabitators are less psychologically distressed than

single, never married individuals (Dush & Amato, 2005; Mastekaasa, 2006; Ross, 1995; Soons & Liefbroer, 2008), an association partly due to cohabitators having greater access to economic and social resources (Soons & Liefbroer, 2008). Other literature, though, has suggested that girls who experience a cohabiting relationship are more likely to have an increase in depressive symptoms as they transition from late adolescence to early adulthood, compared to girls who remain single or do not co-reside with their boyfriend (Booth et al., 2008). This increase in depressive symptoms is suggested to be particularly prominent for those in unstable, high conflict cohabiting relationships, which is consistent with other research that finds high conflict in general to be associated with poorer mental health (Rounsaville et al., 1979).

Compared to young adults who have entered marriage, cohabitators are more likely to develop alcohol problems (Horwitz & White, 1998). Furthermore, cohabitators tend to have greater levels of depression than married individuals, a trend that appears to be due to cohabitators having poorer quality relationships than married couples (Brown, 2000). Similar research finds that young adults who are married have higher ratings of subjective well-being than young adults in cohabiting relationships, which can be partially explained by the additional material resources that come with being married (Soons & Liefbroer, 2008).

Exiting a cohabiting relationship has been associated with negative effects on personal well-being. Longitudinal results suggest that not only is exiting a cohabiting union associated with an increase in psychological distress (Mastekaasa, 2006) and physical health problems (Meadows, McLanahan, & Brooks-Gunn, 2008), but entering a cohabiting relationship and then going through a breakup is associated with greater psychological distress than having remained un-partnered all along (Williams, Sassler, & Nicholson, 2008). Compared to going through a

divorce, however, an exit from a cohabiting union may actually be less harmful to one's mental health than exiting a marriage (Blekesuane, 2008).

Overall, cohabitation has become relatively common among young adults. Whether cohabitation is associated with positive or negative well-being depends on the comparison group. Compared to those who are married, cohabitators are more likely to report depressive symptoms, alcohol problems, and lower subjective well-being. Compared to single, never married young adults, however, cohabitators are less likely to be depressed although previous findings are mixed. Exiting cohabitation is associated with an increase in depressive symptoms and worse health problems. This research helps us understand how young adult cohabitation is associated with well-being in comparison to both marriage and singlehood. However, we know less regarding how different pathways involving different sequences of cohabitation and marriage are associated with well-being. For example, does depression or heavy drinking differ for young adults who cohabit and then marry compared to those who cohabit and never marry? Less is also known on the timing and ordering of cohabitation in conjunction with both motherhood and marriage, and how this is associated with well-being.

Motherhood

The experience of early motherhood has also been linked with many outcomes, usually with single mothers suggested as being more at risk for negative outcomes than adolescents and young adults who are not mothers, and compared to young mothers who married before giving birth (Avison, Ali, & Walters, 2007; Bogat et al., 1998; Brown, 2000; Nomaguchi & Milkie, 2003; Williams, Sassler, & Nicholson, 20008). Young mothers, for example, are more likely to have higher rates of anemia and hypertension than adolescents who are not mothers (Bogat et al., 1998). Women who have children during their teen years are more likely to develop a greater

number of diseases and illnesses, a higher BMI, and to report lower self-rated health during midlife than women who do not have children in their teen years (Taylor, 2009). For childless women there is an increase in physical health after entering a marriage compared to remaining single. Single mothers, however, do not experience this improvement in physical health upon entering marriage mainly due to the fact that single mothers are more likely to view their marriages as being more unstable than childless women who enter a marriage (Williams et al., 2008). Early childbearing has also been associated with differences in mental well-being among women, with young mothers being more likely to portray negative psychological well-being than childless young women (Bogat et al., 1998, Nomaguchi & Milkie, 2003).

Some research, however, has found no differences in mental health changes between those who became parents by age 24 and those who did not (Booth, Rustenbach, & McHale, 2008). In fact, one study that used fixed effects models, which controls for time-invariant factors such as personality traits, found that the effect of being an unmarried parent on depression and poorer health may be largely due to selection factors (Amato & Kane, 2011). These findings suggest that it is important to take into account individuals' states of mental and physical well-being during earlier stages of life, such as adolescence, when looking at the effect of early family formation experiences on well-being in young adulthood.

Relationship status at the time of early childbearing greatly influences whether the experience of becoming a parent has positive or negative effects on one's outcomes, and should be taken into account when looking at the association between parenthood and well-being. Distinguishing the ordering of union and childbearing events experienced, and its impact on health, also focuses more on the specific pathways of family formation, which can give more insight towards subsequent well-being than focusing on single events alone. Research suggests

that single mothers are more likely to report feelings of psychological distress than married mothers (Avison, Ali, & Walters, 2007). Never married women who become parents report lower levels of self-efficacy after childbirth compared to never married women who do not become mothers (Nomaguchi & Milkie, 2003). Cohabiting women who become mothers tend to have less self-esteem, less efficacy, and greater depression after their child's birth compared to cohabiting women who do not become parents, and compared to married women who become mothers (Brown, 2000; Woo & Raley, 2005). Relatedly, the added presence of children may affect cohabitators' levels of depression more-so than married individuals' depression scores (Brown, 2000).

Going through a break up may be more detrimental to young mothers than other young women without children. For single mothers, for example, experiencing the dissolution of a future marriage has a more damaging effect on psychological distress than it does for childless women who later experience a divorce (Williams et al., 2008). Exiting a marriage or cohabitation is associated with a decrease in self rated health and mental health, compared to having remained married or cohabiting (Dush & Adkins, 2009; Meadows, McLanahan, & Brooks-Gunn, 2008), and interestingly, for low-income mothers the strength of the effect of union break up on mental health changes does not differ for those experiencing the breakup of a marriage versus those experiencing the breakup of cohabitation (Dush & Adkins, 2009). Additionally, women who become single mothers, then enter a marriage, and then get divorced tend to have greater psychological distress than women who become single mothers and never get married (i.e. remain single all along) (Williams et al., 2008). Therefore, multiple changes in union structure may be particularly harmful to single mothers.

The link between single parenthood and lower well-being has been explained by both social and economic factors. Becoming a single mother exposes one to a greater number of stressors than remaining childless or being a married mother, and these stressors negatively impact psychological and physical health. Single mothers tend to report great difficulty in handling childcare responsibilities due to the fact that they are on their own. Feelings of role overload and difficulty in balancing work-family commitments tend to be more extreme for single mothers than married mothers (Avison, Ali, & Walters, 2007). Many adolescent mothers experience high stress and isolation, more-so than adolescents without these parenting responsibilities (Bogat et al, 1998). Cohabiting women who become mothers tend to have fewer social resources and are less likely to feel socially integrated than cohabiting women who are non-parents, and compared to married women who become mothers (Woo & Raley, 2005).

Exposure to economic stressors can also explain the link between single parenthood and poorer subsequent health. Adolescent childbearing is linked to a greater likelihood of living below the poverty line, lower likelihood of completing educational degrees (Horowitz, Klerman, Kuo, & Jekel, 1991), and a lower likelihood of reaching economic independence when transitioning to young adulthood (Holcombe, Peterson, & Manlove, 2009). Single mothers are more likely to report economic strains such as difficulty in affording children's expenses, housing, food, etc (Avison et al., 2007). It is also more difficult to pay for medical expenses, resulting in poorer physical health and less preventative care. Greater financial strains associated with single motherhood may increase stress and be related to negative mental health outcomes such as psychological distress (Avison et al., 2007).

Overall, research on motherhood suggests that early non-marital childbearing is associated with worse self-rated health and worse psychological well-being than both early

marital childbearing or later non-early motherhood, although it is unclear as to whether this is due to selection or causation. Women who have children within cohabitation may have greater internalizing problems than women who enter marriage first and then children, and compared to cohabiting women who do not have children within their cohabitations. Lastly, multiple changes in union structure may be more negative for single mothers than either married mothers or single, never married women.

By focusing on whether motherhood is occurring within marriage, within cohabitation, or outside a union, this body of literature on childbearing does more with regard to identifying a sequence of events than the literature focused solely on marriage or cohabitation, which brings us a step closer in understanding a more complete family formation process. However, these studies are limited by not addressing how marriage, cohabitation, and motherhood are occurring together, which sequences of events involving all three activities are most commonly experienced, and whether the pathways themselves are associated with changes in self-rated health, psychological well-being, or other outcomes.

Pathways

A few studies have drawn from life course theory, and looked at the timing and sequencing of these family formation events for young women (e.g., Amato & Kane, 2011; Amato, Landale, Havasevich-Brooks, Booth, Eggebeen, Schoen, & McHale, 2008; MacMillan & Copher, 2005). These studies have identified the most common family formation pathways occurring between adolescence and the early twenties. Unfortunately though they are limited in that they do not follow young adults' family formation experiences through the late twenties. Additionally, we do not know how these longer pathways are associated with adult well-being. Nevertheless, the few studies that do estimate family formation pathways add important

information to the literature, and as they are most relevant to this study, it is worth considering them in greater detail.

MacMillan and Copher (2005) used data from the National Longitudinal Survey of Youth (NLSY79), and followed young women from the late teens through the early twenties. Using latent class analysis, marital, parenthood, employment, and school statuses were measured at two year intervals, and this information was used to create pathways identifying the transition to adulthood. Separate latent class analyses were performed for women from different racial/ethnic backgrounds, with three latent class analyses performed in total (for black, Hispanic, and white women). For black women, three main pathways emerged: (1) “rapid school to parent” (after high school the probability of motherhood became relatively high starting around age 19, (2) “school to parent” (the probability of motherhood became relatively high starting around age 23), & (3) “school to work” (the probability of being enrolled in school decreased at a gradual rate between ages 17 and 21, and the probability of working fulltime became relatively high starting around age 23). For Hispanic women, three main pathways also emerged in the sample, but the pathways were different compared to the pathways suggested for black women: (1) “school to family” (after high school, the probability of motherhood became high starting around age 19, but the probability of being married between ages 19 and 25 was also somewhat high), (2) “school to work, then work to family” (after high school, the probability of working fulltime increased, then around age 24 the probability of being a married mother increased) (3) “extended schooling-delayed work” (the probability of being in school remained high until age 22, at which point the probability of working fulltime increased). For white women, four main pathways emerged: (1) “school to early fulltime work” (after high school, the probability of being employed fulltime became relatively high, (2) “extended schooling-delayed work” (the

probability of being in school was high until age 22, then the probability of being employed fulltime became high), (3) “school to work, and then work to family” (after high school the probability of working was somewhat high, but by age 23 the probability of motherhood became very high, with many of these births occurring in marriages), & (4) “school to early family” (after high school, the probability of marriage & motherhood increased around age 19). Overall, MacMillan and Copher suggested different pathways that women follow, and that these pathways differ by race, but it is unclear from their work on how pathways are linked to well-being outcomes.

Amato and colleagues (Amato et al., 2008; Amato & Kane, 20011) used data from the first and third waves of the National Longitudinal Study of Adolescent Health (Add Health) to identify family formation pathways for young women between adolescence and the early twenties. They also used a latent class analysis to identify pathways, but did so for their entire sample of women instead of separately by race. In addition to marital, parenthood, employment, and school statuses, cohabitation status was also considered when creating the pathways. Seven pathways were identified for the sample of young women: (1) “college - no family formation” (a high probability of being in school through age 22), (2) “high school - no family formation” (after age 18, a high probability of working fulltime), (3) “cohabitation without children” (after age 18, a high probability of working fulltime, and also a high probability of cohabiting between ages 20 and 23), (4) “married mothers” (a high probability of being married starting around age 20, and then a high probability of motherhood starting around age 21), (5) “single mothers” (a high probability of motherhood (but not marriage or cohabitation) starting around age 20), (6) “cohabiting mothers”(a high probability of cohabitation starting around age 19, followed

immediately by a high probability of motherhood), and (7) “inactive” (after high school, a low probability of marriage, cohabitation, motherhood, or working fulltime).

Amato et al. (2008) examined the antecedents of these family formation pathways. Results suggested a number of factors measured during adolescence that were associated with the kinds of pathways experienced. Young women who had lower self-esteem, greater levels of depression, were less likely to feel like people care about them, and had poorer quality relationships with parents during adolescence were more likely to experience early motherhood and early union formation. Young women who were black, who came from lower socioeconomic backgrounds, or who had less academic success during high school were more likely to become single mothers or cohabiting mothers, whereas girls with a socioeconomic advantage were more likely to be in the college-no family category. Young women with higher levels of conservatism (i.e. were religious and abstained from sex during high school) were less likely to cohabit, less likely to become a single mom, and more likely to be in the college-no family group. Inactive young women were those with moderate levels of socioeconomic status, emotional and social resources, and conservatism.

Amato & Kane (2001) then examined how these seven pathways that were identified with the latent class analysis were associated with changes in well-being between adolescence and the early twenties. They found that “college-no family formation” women report positive levels of health, greater self-esteem, and less depression during their early twenties, and single mothers report lower levels of health, less self-esteem, and greater depression than most other groups during their early twenties. But each group did not exhibit a significant change in reported health, self-esteem, or depression between adolescence and young adulthood. That is, single mothers started off with poorer levels and college-no family formation women started off

with more positive levels, suggesting a selection effect. Young women who followed the “college-no family formation” pathway, however, did exhibit significant increases in heavy drinking relative to the other pathways. Those who followed the “college-no family formation” pathway also exhibited a decline in illegal activities that is smaller than the decline seen by women from all other pathways. Overall, Amato and Kane’s findings suggest it is important to look at where individuals start out on well-being indicators in addition to where they end up, which the current study also does.

In sum, these studies focus on demographic or personal characteristics that influence the kinds of pathways young women later experience (Amato et al., 2008; MacMillan & Copher, 2005), or they acknowledge the link between family formation pathways and psychosocial adjustment but do so for women in their early twenties (Amato & Kane, 2011). Little is known about which pathways are most prominent when following young women through their late twenties, or how these longer pathways are linked to psychological outcomes and overall well-being. Given that the transition to adulthood today is a longer, more continual process, it is important to look at the nature of family formation beyond the early twenties. The current study will expand our knowledge by following women into their late 20s and considering the implications of these longer pathways for wellbeing.

Number of union transitions

There also exists a literature on family formation centered on the experience of transitions into and out of serious relationships (i.e. entering cohabiting unions, exiting cohabiting unions, entering marriages, exiting marriages). Most of these studies however have looked at the link between adults’ union transitions and children’s outcomes, rather than the link between adults’ union transition and their own health and well-being (Demo & Fine, 2010).

Additionally, more of the research examining adult relationship transitions and children's outcomes has taken into account the impact of multiple transitions on well-being, whereas research on adult transitions on adults themselves has tended to focus on the impact of single family transitions, such as the transition from married to divorced (e.g. Amato, 2000), or single to cohabiting (e.g. Booth, Rustenbach, & McHale, 2008). Studies discussed earlier suggest that single transitions into or out of marriage and cohabitation for adults can be positive or negative, but multiple transitions implies multiple periods of stress-related adjustment. Nevertheless, a small body of literature has theorized and examined whether the number of marriages and cohabiting unions a person has experienced is associated with their physical and psychological well-being.

Some literature has theorized that going through a series of partners could be a positive thing (Cherlin 2009). Unlike children who have little say in who comes into their household, most adults generally have at least some say in who they'd like to become romantically involved with, cohabit with, marry, and break-off a romantic union with. For some adults, entering and exiting multiple romantic unions may be a method used for finding the most highly fulfilling relationship, and therefore a positive thing. With a greater cultural emphasis in the U.S. today on individualism, which emphasizes personal growth and expressing your needs, adults are more likely to enter and exit cohabitations and marriages based on how much the romantic union fulfills them today than several decades ago.

A few empirical studies, however, have suggested that going through multiple union transitions may be associated with negative adjustment (Barrett, 2000; Dupre & Meadows, 2007). Being in a higher order marriage may put one at greater risk for relationship instability compared to being in a first marriage (Poortman & Lyngstad, 2007), as well as at greater risk for

negative psychological health. Compared to those who have never been married, women who enter into stable marriages are less likely to report depressive symptoms. However, being remarried is associated with greater levels of anxiety than being in a first marriage (Barrett, 2000). Levels of depression tend to be greater for those currently in their third marriages than those currently in their second marriages, and depression tends to be more prevalent for those who are on their second divorce than for those on their first divorce. Additionally, women in their subsequent marriages, particularly third marriages, are more likely to report substance use than those in their first marriages (Barrett, 2000).

This link between the number of marriages and well-being is not only present for mental health outcomes, but also for physical health outcomes. Going through one or more marital dissolutions is associated with greater risk for physical illness such as diabetes, cancer, heart attack, and stroke than being stably married (Dupre & Meadows, 2007). Experiencing three or more dissolutions puts one at greater risk for physical health problems than experiencing only one divorce. Overall, research suggests that the greater number of marriage transitions, the greater the likelihood of experiencing disease onset.

Some research has looked at how the experience of multiple union transitions may influence the mental health of mothers. Cavanagh and Huston (2006) find that mothers who experience a greater number of union transitions are more likely to express depressive symptoms than mothers who experience few union transitions. We do not know firsthand, however, if the association between number of union transitions and subsequent physical and psychological well-being differs for mothers compared to non-parents. Although, it is reasonable to suspect that cycling through multiple partners puts mothers at greater risk for depression and physical health problems than young women without children given that prior work suggests that single mothers

who marry and go through a breakup are more likely to experience psychological distress than childless women who marry and go through a breakup (Williams, Sassler, & Nicholson, 2008).

Only one of these empirical studies, however, actually tests how the number of union transitions is best represented when examining its association with well-being indicators (Cavanagh & Huston, 2006). One should test whether simply adding up the total number of unions is best, whether the number of unions as a curvilinear term is better than a linear term, or whether a set of dummies encompassing both the number of entrances *and* the number of exits best fit the data. The benefit of considering the number of union transitions as a set of dummy categories is that it may matter what one's current marital status is. Those currently in first marriages during the latest wave of data collection, for example, may be doing better on well-being outcomes than those currently remarried, but those remarried may be better off relative to those currently divorced. With respect to a curvilinear versus linear assumption, it's possible that multiple transitions may be influential but only up to a certain point. For example, people who hypothetically experience three divorces or cohabitation breakups may exhibit greater increases in depression and greater decreases in self-rated health than those who experience two breakups, but the difference in changes in well-being between those with, hypothetically, four and five breakups may not be statistically significant. Cavanagh & Huston, in their study on family instability and children's outcomes, coded the number of union transitions in three ways: (1) as the total number of changes in relationships with partners (single, cohabiting, married, divorced – includes changes in both entrances and exits), (2) a quasi-count variable where the number of changes is truncated at three or more, and (3) a set of dummies indicating 0, 1, 2, and 3 or more transitions. For each child outcome variable, the quasi-count method best fit the data. In other words, every additional parental union transition, whether it's an entrance of a new partner or an

exit, is associated with negative well-being for children (with a cap at three or more transitions). Since some research for adults though suggests that entering marriages and cohabitations may not necessarily be associated with negative impacts the way exiting marriages and cohabitations is, a measure best representing the number of union entrances and exits may have a zigzag association with adult well-being. The current study will expand our knowledge by testing how the number of union transitions can best be measured when examining its association with adult outcomes such as depression, self-rated health, delinquency, and heavy drinking.

Few studies have also actually addressed these competing hypotheses of whether multiple union transitions are potentially positive or harmful for adults' personal well-being. Given the results from empirically based studies (e.g., Barrett, 2000; Cavanagh and Huston, 2006; Dupre & Meadows, 2007) it's likely that multiple union transitions, specifically multiple break-ups, may be more negatively associated with indicators such as depression and self-rated health than having few or no breakups. However, the number of empirically based studies testing the link between number of union transitions and well-being is limited, and it's also likely from a theoretical perspective (Cherlin, 2009) that some adults today use multiple unions as a way of finding their best matching partner. In addition to testing how the number of union transitions can be best represented, the current study will also explore which of these competing hypotheses the evidence supports by examining the association between the number of union breakups and well-being, along with the association between number of union entrances and well-being.

How family formation experiences and well-being are connected – Social Stress theory, Crime theory, and Hypotheses

Changes in life, such as experiences regarding family formation, may affect personal well-being on two dimensions: (1) health and (2) risky behaviors. This study looks at indicators

that address these two dimensions. To assess the level of “health” problems, measures of depression and self-rated health are examined. To assess the level of “risky behavior” problems, measures of delinquency and heavy drinking are examined.

These are four well established indicators that others have looked at when examining family formation and well-being outcomes, and therefore are included in this study. The CES-D scale (Radloff, 1977) has been medically used to measure depressive symptoms, and items from the CES-D scale are used in this study. Researchers have found non-marital childbearing, changes in cohabitation status, and changes in marital status to be associated with different levels of depression (Amato 2000; Avison et al., 2007; Bierman et al., 2006; Brown, 2000; Dush & Amato, 2005; Liu & Chen, 2006; Mastekaasa, 2006; Ross, 1995; Soons & Liefbroer, 2008; Waite, 1995; Williams et al., 2008). Differences in levels of self-rated health have also been associated with different cohabitation and marital statuses (Dush & Adkins, 2009; Meadows et al., 2008; Taylor, 2009). Differences in heavy drinking have been looked at with changes in motherhood, cohabitation, and marital statuses (Amato, 2000; Amato & Kane, 2011; Bierman et al., 2006; Coombs, 1991; Horwitz & White, 1998; Kreager, Matsuda, & Erosheva, 2010), and the way in which heavy drinking is measured in this study has also been used in other family formation studies (e.g., Amato & Kane, 2011). Non-marital childbearing, changes in cohabitation status, and changes in marital status have also been previously associated with different levels of delinquency (Amato & Kane, 2011; Kreager, Matsuda, & Erosheva, 2010).

It’s important to look at different outcomes because the nature of the association between family formation experiences and different indicators of well-being may vary for different theoretical reasons. For example, from a social stress perspective, many transitions out of cohabiting and marital relationships may likely be associated with negative outcomes, especially

those indicating health problems. Stress theory suggests that life events that change the nature of interpersonal relationships and cause changes in established roles may impair, or in some cases improve, one's physical and psychological health by disrupting one's daily routine and creating changes in where resources are drawn from (George 1989; 1993). Individuals who go through a cohabiting breakup or divorce are more likely to experience an increase in psychological distress and physical health problems, and less likely to feel like they have a purpose in life than those in stable unions (Amato, 2000; Bierman, Fazio, & Milkie, 2006; Mastekaasa, 2006; Meadows, McLanahan, & Brooks-Gunn, 2008). Divorce literature suggests that these declines in health may in part be due to a decline in economic support, loss of daily emotional support, and loss of some social contacts (Amato, 2000; Bierman et al., 2006; Coombs, 1991), all of which are losses of resources and disrupt one's daily routine in a negative way. A higher number of union breakups would most likely be associated with negative outcomes such as worse depression and worse self-rated health because multiple transitions implies multiple periods of stress-related adjustment.

Being in a stable union however may decrease stress, making levels of depression and self-rated health potentially more favorable. Individuals who enter marriage are more likely to report less illness and a decrease in psychological distress compared to those remaining never married (Bierman, Fazio, & Milkie, 2006; Coombs, 1991; Ross, 1995; Williams, Sassler, & Nicholson, 2008; Waite, 1995). Cohabitators are also less likely to be psychologically distressed than single, never married individuals (Dush & Amato, 2005; Mastekaasa, 2006; Ross, 1995; Soons & Liefbroer, 2008). For both those who enter cohabitations and those who enter stable marriages, having greater social attachment, more emotional support, and greater economic resources helps explain, in part, why those who become cohabitators or stably married are less

likely to have health problems than those who are single, never married (Soons & Liefbroer, 2008), all of which indicate an increase in resources. In this sense, not only may respondents from this study who are currently in stable unions have more favorable levels of depression and self-rated health than those who who've exited unions (particularly multiple union exits), but respondents currently in stable unions may also be better off than those who've never been in a cohabitation or marriage.

Certain pathways may be linked to level of exposure to stressors that may affect individuals' levels of health problems. Pathways that involve a stable marriage may be associated with less depression and greater self-rated health because entering a stable marriage is linked to an increase in social and economic resources, compared to never having entered a stable marriage, and therefore affects one's stress level in a positive way (Bierman et al., 2006; Coombs, 1991; Ross, 1995; Waite, 1995). Married individuals are not only less likely to report depressive symptoms or health problems than single, never married individuals, but married individuals are also less likely to be depressed and more likely to report high subjective well-being than cohabiting individuals, due in part to cohabitators having lower relationship quality and fewer material resources compared to married couples (Brown, 2000; Soons & Liefbroer, 2008).

Young women in pathways involving early childbearing however, particularly when it occurs outside of a marriage, may experience worse depression and worse self-rated health. Young women who become mothers outside of marriage are more likely to develop psychological distress and a greater number of diseases and illnesses compared to young women who do not become mothers, or those who marry first and then become mothers (Avison, Ali, & Walters, 2007; Bogat et al., 1998; Brown, 2000; Nomaguchi & Milkie, 2003; Williams, Sassler, & Nicholson, 20008; Woo & Raley, 2005). These declines in health for young, non-married

mothers are due in part to increased feelings of isolation, feelings of role overload and difficulty balancing work-family commitments, and difficulty affording medical care and other expenses (Avison et al., 2007; Bogat et al, 1998; Horowitz, Klerman, Kuo, & Jekel, 1991; Woo & Raley, 2005), which greatly disrupt daily routine and drain social and economic resources, thereby increasing stress.

Indicators of well-being that assess “risky behaviors” may be linked to family formation experiences in a different manner. Women in pathways that involve entrance into early motherhood, particularly non-marital motherhood, may experience declines in delinquency and heavy drinking between adolescence and young adulthood. Examining within-individual change over a ten year period for young women from disadvantaged communities, most of which contain higher than average crime rates, Kreager, Matsuda, & Erosheva (2010) find that entering motherhood is associated with a significant decline in alcohol use, marijuana use, and level of delinquency between early adolescence and mid-twenties. For disadvantaged urban women, becoming a mother may be a significant turning point for their transition to adulthood, with many respondents from qualitative studies suggesting that having a child draws them towards adult activities and discourages association with those taking part in delinquent and drug activities (Edin & Kefalas, 2005). For these women, motherhood in particular is more likely to encourage an adult lifestyle than marriage, which itself is a desired goal but less likely to be viewed as attainable during the early adult years and is instead a long term goal (Edin & Kefalas). If it’s assumed that young women who follow pathways involving non-marital childbearing, particularly early non-marital childbearing, are at greater risk for starting off with higher levels of risky behaviors during adolescence than young women who don’t follow pathways with non-marital childbearing, then it’s also likely that those in pathways with non-

marital childbearing may experience significantly greater declines in delinquency and heavy drinking than young women following pathways that don't involve non-marital motherhood.

The link between pathways involving marriage and risky behaviors is likely to be favorable, similar to the potential link between pathways involving marriage and health outcomes. Sampson, Laub, and Wimer (2006) suggest that marriage may deter criminal activity for individuals as they age through adulthood. Applying inverse probability of treatment weighting to marriage and crime data on a sample of respondents followed from adolescence to their early thirties, and examining within-individual change, their work suggests that being married is associated with a 35% decline in the odds of criminal activity compared to the odds for the same person when unmarried.

The association between the number of union transitions and risky behaviors is somewhat less clear. Drawing from the marriage and crime literature, transitioning into a union may be associated with a decline in delinquency and heavy drinking (Bierman et al., 2006; Sampson et al., 2006; Waite, 1995), in part because marriage builds a system of support and mutual obligation between partners which brings with it a reduction in time spent on leisure activities with friends and others outside the household (Osgood & Lee, 1993; Sampson & Laub, 1993). Likewise, those who have never been in a union by young adulthood would likely have greater levels of delinquency and heavy drinking compared to those who have entered into their first union. Exits from marriage have been associated with greater heavy drinking compared to being stably married (Bierman, et al., 2006; Coombs, 1991), but it's less clear theoretically whether multiple entrances into and exits from marriage and cohabitation are associated with risky behaviors. Some prior literature suggests that a high number of entrances and exits into unions may be associated with negative outcomes, such as greater odds of substance use (Barrett, 2000),

but other literature suggests that going through a series of partners is simply a method for finding the most highly fulfilling relationship, and therefore would not be a negative thing (Cherlin, 2009). Nevertheless, this study tests the link between multiple union transitions and outcomes, both health and risky behaviors, and will be able to further identify which body of literature regarding multiple transitions the evidence supports.

Though it is unknown at this point what the pathways will look like, or how the number of transitions will be best measured, some general hypotheses are suggested below based on the theoretical motivations described above. It's important to examine different well-being outcomes because when looking across outcomes some differences are expected in the link between certain pathways and certain well-being indicators. Some events, such as early, non-marital childbearing, may have negative consequences for health factors such as greater depression and lower self-rated health, but they may also have positive consequences for risky behaviors such as decreased delinquency and less heavy drinking. Other events however, such as marriage, may have positive consequences for both health and risky behaviors. In thinking about how the number of union entrances and exits are linked to health and risky behaviors, it's hypothesized that entrances into marriage and cohabitation are associated with more positive outcomes compared to never entering a marriage or cohabitation, and exiting a union is associated with more negative outcomes compared to stably entering a union, but testing is needed to identify whether multiple entrances and exits are associated with positive or negative outcomes.

Pathways

A. Depression and Self-Rated Health

Hypothesis #1: Young women who follow pathways involving marriage will exhibit a significantly greater decline in depression and smaller decline in self-rated health compared to

those who don't follow pathways with marriage.

Hypothesis #2: Respondents who follow pathways involving non-marital motherhood, particularly early non-marital motherhood, will experience a smaller improvement in depression and greater decline in self-rated health compared to those who do not experience non-marital motherhood.

B. Heavy Drinking and Delinquency

Hypothesis #3: Respondents in pathways with non-marital childbearing will experience significantly greater declines in delinquency and heavy drinking than young women following pathways that do not involve non-marital motherhood.

Hypothesis #4: Young women who follow pathways with marriage will experience significantly greater declines in delinquency and heavy drinking compared to those in pathways that do not involve marriage (excluding those in pathways with non-marital births and no marriage).

Number of Transitions

A. Depression and Self-Rated Health

Hypothesis #5: Respondents who are currently broken up from a union during the last wave of data collection (i.e. late twenties/early thirties), will have experienced a significant increase in depression and decline in self-rated health over time.

Hypothesis #6: Respondents who experience a high number of union breakups will experience significant increases in depression and declines in self-rated health over time.

Hypothesis #7: Those who experience a high number of union breakups will experience a greater increase in depression and greater decline in self-rated health compared to those currently broken up at wave four, but have not had many breakups.

Hypothesis #8: Those currently in unions during the last wave of data collection will have experienced a greater improvement in depression and self-rated health compared to those currently broken up from a union, those who have had multiple union exits, or who've never entered a union.

B. Heavy Drinking and Delinquency

Hypothesis #9: Those currently broken up from a union during the last wave of data collection, and those who have never been in a union, will exhibit a significant within-group worsening in heavy drinking and delinquency between adolescence and the late twenties/early thirties.

Hypothesis #10: Those currently in unions during the last wave of data collection will have experienced a greater improvement (more favorable levels) in delinquency and heavy drinking compared to those who are currently broken up from a union, or who've never entered a union.

Contribution of the current study

Prior research has examined demographic & personal predictors of family formation pathways experienced from adolescence through the early 20s (Amato et al., 2008; MacMillan and Copher, 2005), and prior research has also examined the way pathways are associated with changes in well-being between adolescence and the early 20s (Amato & Kane, 2011). Little research however has identified which family formation pathways are most common when following women into their late 20s and early 30s, and little is known on how these longer pathways are associated with changes in health and risky behavior outcomes.

Furthermore, while many studies have examined the number of adults' entrances into and exits out of marriage and cohabitation on childrens' outcomes (e.g. Amato 2000; Cavanagh &

Huston, 2006; Demo & Cox, 2000; Fomby & Cherlin 2007; Osborne & McLanahan 2007), few studies have looked at the total number of union transitions on well-being outcomes for the adults themselves (Demo & Fine 2010), especially those in the young adult stage of life. Also, the majority of studies on union transitions and adult well-being tend to look at the occurrence of a single transition within a given length of time, such as transitioning from marriage to divorce, never married to married, or cohabiting to exiting a cohabitation (e.g. Amato, 2000; Bierman et al., 2006; Blekesaune 2008; Brown 2000; Dush & Adkins, 2009; Meadows, McLanahan, & Brooks-Gunn, 2008; Williams et al, 2008). The breakup of a marriage or cohabiting union, for example, is generally associated with a drop in income for women, a possible residential change, and the loss of a daily source of emotional support, often resulting in a decrease in well-being compared to being in a stable union (Amato, 2000; Bierman,et al., 2006; Coombs, 1991; Meadows, McLanahan, & Brooks-Gunn, 2008; Williams, Sassler, & Nicholson, 2008), whereas entering a marriage or cohabitation is associated with better mental and physical health, and less alcohol abuse and delinquency, compared to being single and never married (Bierman et al., 2006; Coombs, 1991; Dush & Amato, 2005; Ross, 1995; Soons & Liefbroer, 2008; Waite, 1995; Williams et al., 2008). For all of this work on family formation, some studies do not focus specifically on younger adults (e.g. Dupre & Meadows, 2007), some are not nationally representative (e.g., Meadows, McLanahan, & Brooks-Gunn, 2008), and some only focus on young women in their early twenties (e.g., Booth et al., 2008; Horwitz & White, 1998; Mastekaasa, 2006).

Following respondents only through age 24 may not be far enough. Much of the previous research doesn't take into account the fact that the transition to adulthood today tends to be a longer, more continual process, with greater emphasis on personal growth and a greater

proportion of young women enrolling in higher education, having multiple jobs, and experiencing multiple romantic unions (Arnett, 2004; Settersten, Furstenberg, Rumbaut, 2005). By the early twenties, few respondents would have had time to experience multiple transitions, and therefore less variation would exist within the amount and timing of entrances into and exits from cohabitations and marriages. To address these limitations, the current study adds to the literature by focusing on both the types of family formation pathways and the number of transitions experienced, and their associations with young adult outcomes on women who are in their late twenties and early thirties.

Chapter 3

Sample, Method, and Variables

Data and Sample

Data for the current study came from waves one (1994-1995) and four (2008) of the National Longitudinal Study of Adolescent Health (Add Health). The Add Health dataset is based on a nationally representative sample of U.S. secondary schools at the time of the baseline survey in 1994. All respondents during the initial wave of data collection were attending grades 7 through 12. Information was collected from adolescents over time in order to obtain knowledge about family, school, peer groups, romantic relationships, and physical and psychological well-being during the transition to young adulthood. Of the 20,745 respondents interviewed in the first wave of Add health, 15,701 were re-interviewed in wave four, during which respondent's ranged in age from 24 to 34 years old.

Data was collected in a multistage, stratified, clustered sampling design. First, a sampling frame was created using the Quality Education Data, Inc. Eighty high schools were selected based on size, type, region of the country, ethnicity, and how urban the school district was, making the sample representative of all U.S. schools. Schools that enrolled at least thirty students were eligible for the study, and the majority of schools (roughly 70%) originally selected for the study agreed to participate. A junior high or middle school from the same district, and whose students would later attend the selected high school, was also selected to participate in the study. Students on each school's student roster were eligible for an in-school questionnaire, and an in-home questionnaire. For the in-home questionnaire, students were stratified by sex and grade. In addition, oversamples were drawn for respondents from various backgrounds- black with at least

one parent holding a college degree, Chinese, Cuban, and Puerto Rican. Further information about the Add health data collection and study design can be found in Harris et al. (2003).

Add Health is ideal for studying how social environments in adolescence are linked to health and achievement outcomes in young adulthood. A strength of using the Add Health data in answering the current study's proposed research questions is that many of the respondents in the wave four interview were in their late twenties and early thirties, allowing the study to follow the family formation and relationship transitions for young girls as they move from adolescence to young adulthood.

Because early parenthood may have more negative consequences for females than males, and because Add Health fertility histories tend to be more accurately reported by female respondents (Schoen et al., 2007), the study's analytic sample consisted of young women only. Of the 15,701 respondents interviewed at wave four, 8,352 were female. This study used a latent class approach to construct family formation paths from adolescence to young adulthood. All respondents kept in the analytic sample, therefore, had to have reached at least the given age in which the latent class followed individuals through. The current study examined pathways through age twenty nine, which reduced the analytic sample to 4,099. Given the extensive design effects of the Add Health study, stratification, clustering, and survey weights were used when performing analyses. All respondents who were not given a value on the wave four weights were therefore dropped from the study, which resulted in a final analytic sample of 3,907.

Measures

Well-being

Measures of well-being (the dependent variables) came from waves one and four of Add Health. Four measures of well-being were evaluated and they addressed health and risky

behavior outcomes: depression, self-rated health, delinquency, and heavy drinking. These measures have been used in many prior studies on family formation and outcomes, and are considered good measures (Amato 2000; Amato & Kane, 2011; Avison et al., 2007; Bierman et al., 2006; Brown, 2000; Coombs, 1991; Dush & Adkins, 2009; Dush & Amato, 2005; Horwitz & White, 1998; Kreager, Matsuda, & Erosheva, 2010; Liu & Chen, 2006; Mastekaasa, 2006; Ross, 1995; Meadows et al., 2008; Soons & Liefbroer, 2008; Taylor, 2009; Waite, 1995; Williams et al., 2008). All indicators of well-being were measured at both time points in the same way, and change scores were created by subtracting the wave one score from the wave four score. The changes scores were then used as the dependent variables. All scales were indicated as being uni-dimensional through factor analyses, and were created by taking the mean of the items.

Depression (wave four alpha = 0.85, wave one=.83) was represented with a ten-item scale. Items for this scale were based on a subset of items from the CES-D Scale (Radloff, 1977). Respondents were asked how often during the past seven days they were bothered by things that usually don't bother them, could not shake off the blues, felt they were just as good as other people, had trouble keeping their mind on what they were doing, felt depressed, felt that they were too tired to do things, felt happy, enjoyed life, felt sad, and felt that people disliked them. Response choices were 1=*never or rarely*, 2=*sometimes*, 3=*a lot of the time*, and 4=*most of the time or all of the time*, with reverse coding for the items that ask how often respondents felt they were just as good as others, felt happy, and enjoyed life.

Self-rated health was represented with a single item. Respondents were asked to rate their overall health, with response choices 1=*poor*, 2=*fair*, 3=*good*, 4=*very good*, and 5=*excellent*.

Delinquency was represented with an eight-item scale (wave four alpha=0.54, wave one = 0.67).¹ Respondents were asked how often in the past 12 months they deliberately damaged

property that did not belong to them, stole something worth more than \$50, went into a house or building to steal something, used or threatened to use a weapon to get something from someone, sold marijuana or other drugs, stole something worth more than \$50, got into a serious fight, and took part in a physical fight where a group of friends were against another group. Responses choices were 1=*never*, 2=*1 or 2 times*, 3=*3 or 4 times*, and 4=*5 or more times*.

Heavy Drinking was a three-item scale (wave four alpha=0.85, wave one=0.89).

Respondents were asked to think about the past 12 months and to report on how many days they drank alcohol, on how many days they drank 5 or more drinks in a row, and on how many days they were drunk or “very high” on alcohol. Responses for these three items were coded as 1=*none*, 2=*1 or 2 days*, 3=*once a month or less*, 4=*2 or 3 days a month*, 5=*1 or 2 days a week*, 6=*3 to 5 days a week*, and 7=*every day or almost every day*.

Family Formation Pathways

Latent Class Analysis (LCA) was used to create the family formation pathways. LCA is a statistical procedure that identifies the most common, underlying patterns within the data based on respondents’ answers to questions of interest (i.e. questions related to dates of marriage, cohabitation, and first birth). The benefit of having the pathways created through LCA was that the procedure could identify which pathways actually existed within the sample, and how many respondents there were falling into each pathway category. Furthermore, it performed a series of iterations and likelihood tests that suggested how many pathways best described the sample. It’s possible to create groups by hand without the LCA, placing respondents into groups that are substantively important. With the LCA though, there’s the benefit of knowing that the pathways created are those which stand out for the particular sample in one’s study. Because the sample for this study comes from students in a nationally representative body of secondary schools, the

results from the LCA here suggested likely pathways commonly experienced by young adults today throughout the U.S.

Questions for the current study that were used to inform the LCA procedure consisted of the following:

For those who reported ever being married -

(1) In what month and year did you marry {initials}?

(2) In what month and year did your marriage to {initials} end?

For those who reported ever having cohabited -

(3) In what month and year did you start to live with {initials}?

(4) In what month and year did you stop living with {initials}?

For those who reported ever being pregnant -

(5) In what month and year did this pregnancy end?

Answers to these questions showed whether a respondent was cohabiting, married, or a mother at each year (1=yes, 0=no) between the ages of 18 and 29. The latent class procedure then identified the most common pathways that best fit the sample, based on the series of “yes” and “no” responses at each age from respondents. Pregnancies that ended in abortion, adoption, stillborn, or a child dying at birth were not counted.

An example of how the latent class procedure identifies classes is provided in Table 1. Take for example person #1, who became a mother at age 19, was in a cohabiting union(s) from ages 22 through 25, and never got married between the ages of 18 and 29. As another example there is person #2, who also became a mother at age 19, but was a cohabitor beforehand beginning at age 18. Person #2 stayed a cohabitor until age 23, at which age she entered a marriage. Theoretically, each person experienced a relatively different series of family

formation events, and a latent class analysis procedure would likely identify each respondent under different classes. Person #1 could be called an “early single mother who sometimes cohabits”, and person #2 could be called a “cohabiting mother who later marries”.

Table 1: Example of Latent Class Analysis Indicators

	Person #1											
	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>
Parenthood	0	1	1	1	1	1	1	1	1	1	1	1
Marriage	0	0	0	0	0	0	0	0	0	0	0	0
Cohabitation	0	0	0	0	1	1	1	1	0	0	0	0
	Person #2											
	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>
Parenthood	0	1	1	1	1	1	1	1	1	1	1	1
Marriage	0	0	0	0	0	1	1	1	1	1	1	1
Cohabitation	1	1	1	1	1	1	0	0	0	0	0	0

Number of Union Transitions

The number of union transitions was a count of all entrances into and exits from marriages and cohabitations that respondents experienced throughout their entire lives, up until Add Health’s wave four interview date. Preliminary analyses suggested that the number of union transitions was best represented as a series of dummy categories, instead of a linear or curvilinear variable. A “transition” was considered to have occurred if a respondent either entered -or-exited a cohabiting/marital union. For example, those currently in their 1st union at wave four were counted as having “one” transition, those who’ve exited their 1st union were counted as having “two” transitions, those currently in their 2nd union were counted as having “three” transitions, etc. In other words, odd numbers denoted being in a relationship and even numbers denoted being out of a relationship. If a respondent married her cohabiting partner, this was only counted as one union entrance. The number of transitions ranged from zero to eight or more. Frequencies higher than eight were sparse and therefore the overall number was truncated at eight.

Table 2 shows the number of respondents who experienced each category of number of union transitions experienced by wave four. Of the 3,907 respondents, 501 have never experienced a cohabiting/marital union by wave four. This was the third most commonly occurring group. Being in one's first union at wave four (i.e. one transition) was the most commonly occurring group, with 1,522 respondents falling into this category. Being the most frequently occurring group, respondents with one union transition was used as the reference category in further analyses. 486 women have exited their first union by wave four, and have experienced two transitions. Currently being in one's second union was the second most commonly occurring group, with 639 respondents falling into this category. 256 women, though, have exited this second union by wave four. For those currently in their third union, 245 respondents were within this group. 92 respondents have exited their third union by wave four, 80 were currently in their fourth union by wave four (the least commonly occurring group), and 86 women by wave four have had eight or more union transitions.

**Table 2: Number and Percentage of Respondents
Per Number of Union Transitions**

	N	%
Zero	501	12.82
One (In 1st union)	1,522	38.96
Two (Exited 1st union)	486	12.44
Three (In 2nd union)	639	16.36
Four (Exited 2nd union)	256	6.55
Five (In 3rd union)	245	6.27
Six (Exited 3rd union)	92	2.35
Seven (In 4th union)	80	2.05
Eight or more	86	2.20
Total	3,907	100.00

Because change scores were created for all dependent variables, a fixed effects analysis was used when examining the effects of pathways and number of transitions on changes in well-

being. Fixed effects analysis is a type of regression analysis where the regression equation includes the change in “y” as the dependent variable, and the change in predictor variables over time. A fixed effects regression equation consists of the prediction equation at a “time 2” (wave 4) minus the prediction equation at “time 1” (wave 1), which results in a reduced equation where the difference in well-being between the two waves is due to changes in the time-varying predictors, changes in the intercepts, and changes in the error terms for each individual at each time. The predictor variables that don’t change over time and the unobserved variables that don’t change over time drop out of the equation.

The benefit of using a fixed effects analysis for a longitudinal study is that it naturally controls for all variables that wouldn’t naturally change throughout the course of a study. In practice it is difficult to control for all possible factors that may be significantly related to dependent variables, and the goal in research is try to isolate the root cause of the outcome variable. If the family formation pathways and number of union transitions are still significantly related to changes in health and risky behaviors after using fixed effects regression, then it suggests that the link between these variables is not due to time-invariant factors such as inherent personality traits, home environment during childhood, race/ethnicity, etc. Because fixed effects regression was used, the only variable controlled for in the final regression models was the change in respondent’s age between waves one and four. Many variables which are usually controlled for in family sociological research would not need to be in this study, such as respondent’s race/ethnicity or parent of origin’s SES. Respondent’s age though would be changing throughout the course of this study, and could be significantly related to some of the outcome variables. For example, aging away from adolescence and into adulthood has been associated with a decline in delinquency (Pinker, 2011).

One other important factor that changed over time for this sample of young women, and possibly related to the pathways and outcome measures, was an individual's level of education. Respondent's educational attainment may be significantly associated with some of the potential pathways, with women attaining more education being more likely to be in pathways involving marriage, especially later marriage (Amato et al., 2008). In addition, college attendance has been associated with a greater increase in heavy drinking than not attending college during young adulthood (Slutske, 2005). Whether education is best measured substantively as a continuous variable or set of categories, however, is unclear. Nevertheless, all models in this study were estimated both with and without the change in education as a control variable, with education represented in years. No major differences were found between the two sets of analyses, and therefore the final models are presented for those with just the control of change in age, with any major differences in the final results noted in a footnote.

Missing Data

Missing data was addressed in two ways. First, I dealt with cases where respondents said "don't know" or "refusal" on questions asking for the dates of entrance and exit on any of their marriages and cohabitations. There were 180 young women who did not know or refused to give an entrance/exit date for at least one of their cohabitations, and there were 16 young women who did not know or refused to give an entrance/exit date for a marriage. I did not want to impute this information via multiple imputation (i.e. via the "ice" command in Stata or another similar program) because the people missing on these values were not missing at random, and imputations work best when data is either missing at random or missing completely at random (Graham, 2009). Respondents missing on entrance and exit dates were more likely to be those with particularly higher numbers of unions. I did not want to throw away these cases because

they were a unique group, a group that I wanted to get results from when examining whether the overall number of union transitions was associated with changes in health and risky behavior well-being. I also could not leave these dates missing because the latent class analysis required a complete data matrix.

Instead, for this missing information I used “logical edits”, which involved assigning values based on available information. In other words, I assigned dates of entrance and exit based on what the rest of one’s relationship history looked like. The missing values did not need to be replaced with likely substitutes from an imputation prediction model because I had enough information logically, for most cases, to establish a good range of when these union dates must have occurred. To help with this assigning I identified the entrance and exit dates for all other known cohabitations and marriages that the respondent engaged in, plus the dates for all of their children’s births (for which there was virtually no missing data). In addition, I used respondents’ answers to questions such as, “how long (in months) would you say each cohabitation/marriage lasted” and “were you cohabiting/married at the time of (child’s) birth?”

For most respondents there was at least some information from their relationship history to help inform a logical assigning of a missing value. For those, however, who were missing on both the entrance and exit dates for a cohabitation/marriage, and they had no other information to go by (i.e. they had no other relationships), then I assigned the unknown entrance date as January 1, 2000 (roughly age 22.5 for the average respondent in the sample) and assigned the exit date as being six months later if it were a cohabitation, or one year later if it were a marriage. If the respondent knew the length of this union but neither of the dates (which sometimes occurred), then I continued to give the entrance date as January 1, 2000 but gave an exit date based on the known length. Lastly, I created a binary “missing date” indicator in the dataset, where all 180

women missing on a cohabitation date(s) and all 16 women missing on a marriage date(s) were given a “one” on this indicator. I ran the analysis separately with and without these missing cases and results did not substantively change.

After having performed these logical edits, and after having obtained the family formation pathways from the latent class analysis, I then performed a multiple imputation (five imputations) using Stata’s ice procedure to account for missing data on all other variables. Very little missing data existed for the sample of 3,907 respondents on their outcome and age variables. At wave one there were 4, 8, 18, 0, and 1 missing cases on self-rated health, depression, delinquency, heavy drinking, and respondent’s age, respectively. Wave four had even fewer missing cases. At wave four there were 0, 1, 8, 1, and 0 missing cases on self-rated health, depression, delinquency, heavy drinking, and respondent’s age, respectively.

Analytic Strategy

Analyses were conducted in three stages. For the first stage, family formation pathways that best fit the sample were estimated using the latent class analysis procedure in MPlus (Muthén & Muthén, 1998-2007). For the second stage, analyses were performed that answered the question of how different family formation pathways affected subsequent well-being in young adulthood. During the third stage, analyses were performed that answered the question of how the number of union transitions affected subsequent well-being.

For stages two and three, three steps of analyses were conducted using Stata 11 (StataCorp, 2009)². First, mean scores were calculated for wave 1 well-being indicators, wave 4 well-being indicators, and raw (no controls included) changes in well-being indicators, by each pathway and number of union transitions experienced. Each pathway and each number of

transitions was examined to see whether it exhibited significant changes in well-being between the first and fourth waves.

Second, an overall F-test was used to test whether the pathways, overall, and whether the number of union transitions, overall, were related to the well-being indicators. When examining whether a group experienced a significantly greater increase or decrease in well-being compared to the other groups, each group was rotated as the reference category.

Third, fixed effects regressions tested whether the family formation pathways and numbers of union transitions were significantly related to well-being. Rotation of the reference group was performed to test whether each group experienced a significantly greater increase or decrease in well-being compared to other groups. Again, an F-test was used to test whether the pathways, overall, and whether the number of union transitions, overall were related to the well-being indicators. In both steps where F-tests were conducted, only the well-being indicators that the independent variable is significantly associated with were interpreted.

The next few chapters present the results from these stages of analyses. Characteristics of the overall sample are discussed in chapter four. Chapter five presents results from the latent class analysis and gives a detailed description of what each pathway looked like with regards to experiences with cohabitation, marriage, and motherhood. It also provides descriptive characteristics for pathway, and a description of which pathways were followed for young women within each of the experienced number of union transitions Chapter six discusses the associations between pathways and well-being outcomes. And finally, chapter seven discusses the associations between number of union transitions and well-being, the third and final stage of analyses.

Chapter 4

Results - Sample Characteristics

A variety of descriptive characteristics of the sample are presented in this chapter. Although few measures were controlled for in this study because a fixed effects regression analysis was used, information about the sample of respondents regarding standard demographic characteristics is provided below. Following the information on basic descriptive characteristics are tables which present the numbers of cohabitations, marriages, and divorces experienced by young women in the sample. Also, a crosstab of the pathways and number of transitions is provided, offering a description of which pathways were followed for young women within each of the experienced number of union transitions.

Table 3 reports basic sample characteristics for the sample ($n=3907$). All statistics were estimated using survey weights. Information included in Table 3 consists of (a) demographic characteristics of respondents at wave one (late adolescence), (b) characteristics of respondents at wave four (young adulthood), and (c) descriptive information on the dependent variables. Results regarding background characteristics at wave one show that the average age for respondents at that time was 17 years old, with a range in age between 13 and 21 years. Additionally, about two-thirds of respondents were white, 18% were black, 12% were Hispanic, and 5% were from another racial/ethnic background. Parents' average level of education (coded as 1=*less than high school*, 2=*high school*, 3=*some college*, 4=*college degree or more*. Education levels for both the mother and father were taken if both were present; otherwise just the present parent's education level was used) was a score of 2.47, meaning that most respondents came from households where parents had between a high-school and some college level of education. Approximately half of all respondents in the sample came from households with two biological

parents present. 22% of respondents came from single mother households, and 2% came from single father households. 17% came from a stepfamily, and 9% came from other family types.

Table 3: Weighted Descriptive Characteristics (N=3907)

Variable	Mean	St. Error	Percentages	Range
Characteristics at Wave 1				
Age	17.01	0.02		13-21
Parent's education	2.47	0.05		1-4
Race				
White			65%	0-1
Black			18%	0-1
Hispanic			12%	0-1
Other			5%	0-1
Family structure				
Twobio parents			50%	0-1
Step parents			17%	0-1
Single mom			22%	0-1
Single dad			2%	0-1
Other fam type			9%	0-1
Characteristics at Wave 4				
Age	29.97	0.03		29-34
Respondent income	7.92	0.12		1-12
Ever cohabited			72%	0-1
Ever married			60%	0-1
Ever became a mom			62%	0-1
Age at first birth	22.52	0.16		
Dependent Variables				
Depression - wave 4	1.66	0.01		1-4
Depression - wave 1	1.76	0.02		1-4
Change in depression	-0.11	0.02		-2.5-2.6
Self-rated health - wave 4	3.63	0.03		1-5
Self-rated health - wave 1	3.75	0.03		1-5
Change in health	-0.12	0.03		-4-3
Delinquency - wave 4	1.02	0.00		1-4
Delinquency - wave 1	1.12	0.00		1-4
Change in delinquency	-0.10	0.01		-2.63-1.38
Heavy Drinking - wave 4	2.08	0.04		1-7
Heavy Drinking - wave 1	1.95	0.04		1-7
Change in heavy drinking	0.13	0.04		-6-6

At wave four, respondents were approximately 30 years old, on average. Respondent's household income was coded 1=*less than \$5,000*, 2=*\$5,000 to \$9,999*, 3=*\$10,000 to \$14,999*, 4=*\$15,000 to \$19,999*, 5=*\$20,000 to \$24,999*, 6=*\$25,000 to \$29,999*, 7=*\$30,000 to \$39,000*, 8=*\$40,000 to \$49,999*, 9=*\$50,000 to \$74,999*, 10=*\$75,000 to \$99,999*, 11=*\$100,000 to \$149,999*, 12=*\$150,000 or more*. The average household income was "7.92", or somewhere between \$30,000 and \$39,999.

Out of the three possible family formation experiences identified in this study (cohabitation, marriage, and motherhood), cohabitation was the most frequently occurring experience, with 72% of respondents in the sample having cohabited at least once by wave four. The amount of respondents having ever married by wave four was 60%. 62% of respondents reported that they had become a mother at some point in their lives so far, with the mean age at first birth having occurred at approximately 22 ½ years of age.

Table 3 also reports the mean scores on all well-being indicators at both waves, plus the mean change scores for depression, self-rated health, delinquency, and heavy drinking for the overall sample. On average, respondents "improved" over time on depression and delinquency (i.e. depression and involvement in delinquency declined). Self-rated health and heavy drinking, however, worsened over time. Mean depression at wave one was 1.76, but falls to 1.66 by wave four. Mean self-rated health at wave one was 3.75; however by wave four the mean level of self-rated health was 3.63. For delinquency, the mean scores at waves one and four were 1.12 and 1.02, respectively. For heavy drinking, the mean scores at waves one and four were 1.95 and 2.08, respectively. Overall, the average respondent reported symptoms of depression within the past week which ranged in frequency between rarely and sometimes. The average respondent rated their health as falling somewhere between good and very good. The average respondent

engaged in delinquent actions between never to one or two times a year. And on average, respondents drank heavily approximately one or two times per year, with a little higher frequency at wave four than at wave one. In general, the average respondent in the sample appeared to be only a little depressed, reported their health as being relatively good, was not very delinquent, and drank heavily once in a while.

Tables 4 through 6 report basic information on the numbers of respondents in the sample experiencing cohabitation, marriage, and divorce. During the interview process, Add Health asked respondents to provide a history of all romantic partners they've been involved with, and then to report whether for each partner they began a cohabiting relationship with him/her, and whether they married each partner. Partners did not need to be listed in chronological order (although respondents were asked to identify the months and years in which they began and ended their relationships). 2,610 respondents in the sample of 3,907 reported having cohabited with the first partner they listed, and just fewer than 1,500 of these cohabitations turned into marriages (as seen in Table 4). 1,327 respondents cohabited with the second partner they listed, and 150 of these cohabitations turned into marriages. Just fewer than 500 respondents reported cohabiting with the third partner listed, and five of these cohabitations turned into marriages.

Table 4: Partner Number Listed from Relationship History File

Partner Number	Number Cohabiting	Number who Married the Cohabiting Partner
1	2,610	1,487
2	1,327	150
3	495	5

Table 5 shows the total number of cohabitations experienced by respondents. Just over 70% of respondents in the sample have cohabited at least once by age 29. Many young women ($n=1,595$, 40.8%) have had just one cohabiting partner during their teens and twenties. 789

respondents (20.2%) have cohabited with two partners, 290 (7.4%) respondents have cohabited with three partners, and 101 (2.6%) respondents have cohabited with four partners. Fewer respondents experienced five or more cohabitations. 26 respondents have cohabited with five partners, 7 respondents have cohabited with six partners, 5 respondents have cohabited with seven partners, and just 1 respondent had cohabited with eight partners and 1 respondent with ten partners.

Table 5: Number of Cohabitations Experienced by Respondents

Number of Cohabitations	Number of Respondents	%
0	1,092	27.9
1	1,595	40.8
2	789	20.2
3	290	7.4
4	101	2.6
5	26	0.7
6	7	0.2
7	5	0.1
8	1	0.0
10	1	0.0
Total	3,907	100

A breakdown of the number of marriages and divorces experienced by respondents in the sample is provided in Table 6. It's indicated from the column "total marriages" that 1,549 (~40%) of the young women in the study did not marry by the late twenties/early thirties. 2,122, however, did experience one marriage, 224 experienced two marriages, and 12 respondents experienced three marriages. Of the 2,358 young women who did marry at least once by the end of their twenties or into their early thirties, 1,719 never divorced. 582 of these 2,358 women though did experience one divorce. 53 experienced two divorces, and 4 women married three times and divorced from all three of these marriages.

Table 6: Number of Marriages and Divorces

	Total Marriages	Total Divorces	Divorces if Ever Married
0	1,549	3,268	1,719
1	2,122	582	582
2	224	53	53
3	12	4	4
Total	3,907	3,907	2,358

Characteristics of what the entire sample looked like were provided in this chapter.

Cohabitation was the most common family formation event, followed by motherhood and then marriage. Mean age at first birth for this sample of young women was 22.5 years. Of those who married, few had more than two marriages. Respondents were more likely to enter multiple cohabitations than multiple marriages, although few had more than five cohabitations. In order to better understand which pathways of family formation are experienced by the sample, a latent class is utilized in the next chapter to group people into common pathways.

Chapter 5

Results – Latent Class Analysis

Identifying the Number of Pathways

This chapter presents a description of the pathways that resulted from the latent class analysis. Results from Table 7 indicate that nine latent classes of family formation best fit the data. Using the Vuong-Lo-Mendell-Rubin test, Lo-Mendell-Rubin test, and bootstrapped parametric likelihood ratio test, the latent class procedure tested whether each successive number of classes was significantly better than the previous (smaller) number of classes, beginning with two classes and ending when significance tests indicated that the best fitting number of classes has been reached. Two out of the three tests suggested that ten classes were no better than nine classes. Entropy values for each number of latent classes tested also indicated whether the level of separation among the components was relatively high or low. In general, a score closer to 1.0 is best, which suggests that the level of separation is high. The entropy score in Table 7 for nine classes was 0.968, which was high.

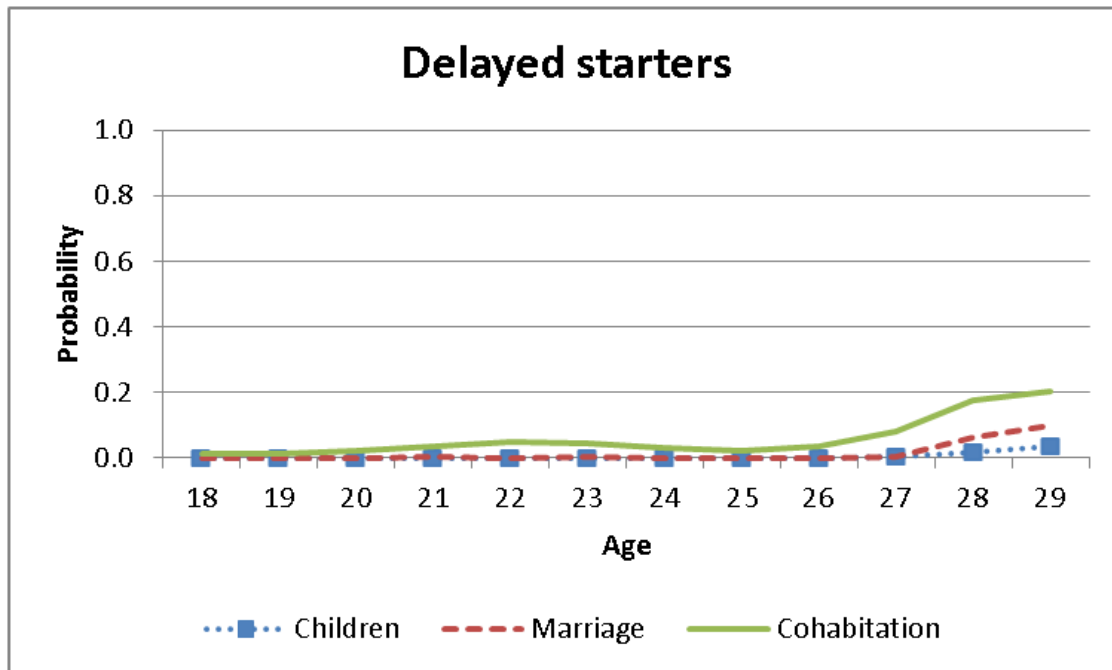
**Table 7: Latent Class Analysis -
Entropy values & P-values for determining the number of classes**

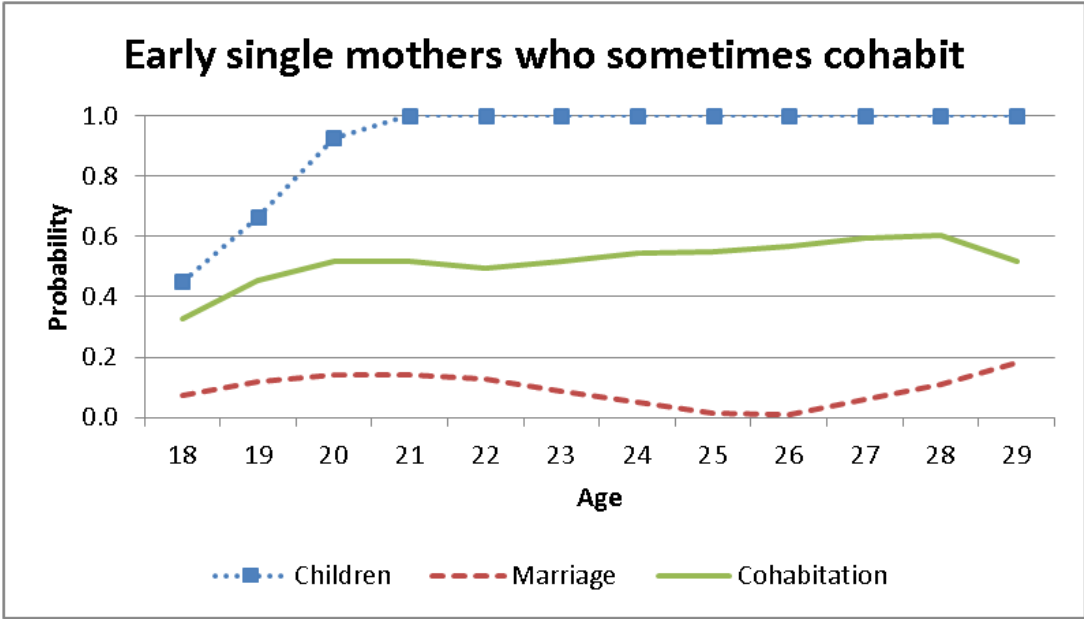
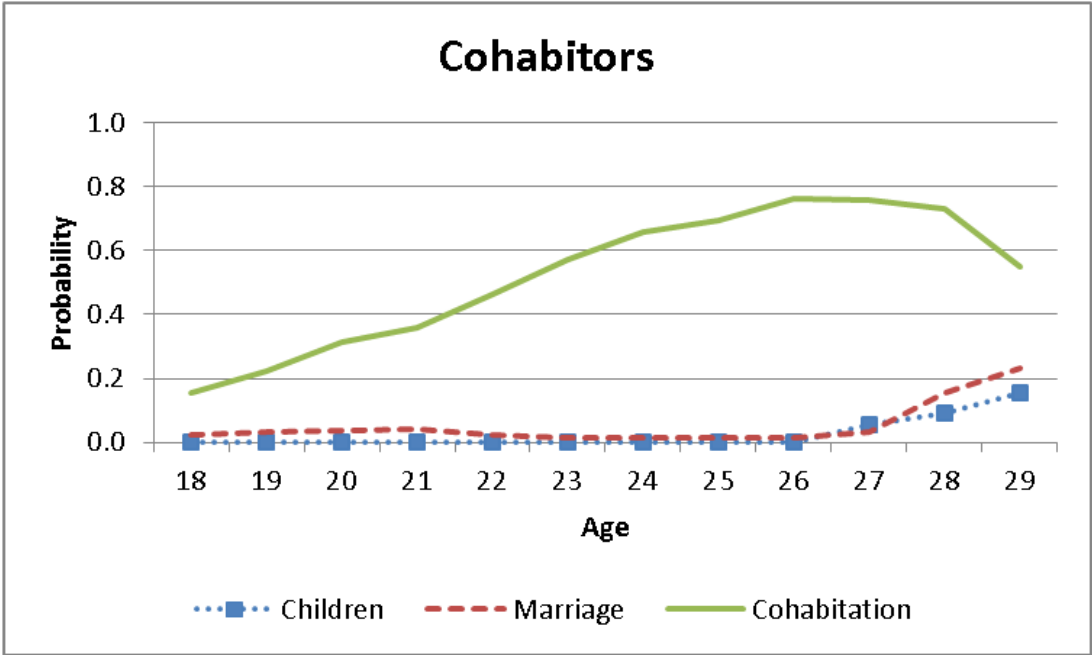
Classes	Entropy	Vlmr p-value	Lmr p-value	Pb p-value
2	0.981	0.0000	0.0000	0.0000
3	0.978	0.0001	0.0002	0.0000
4	0.980	0.0000	0.0000	0.0000
5	0.966	0.0000	0.0000	0.0000
6	0.965	0.0000	0.0000	0.0000
7	0.970	0.0000	0.0000	0.0000
8	0.969	0.0000	0.0000	0.0000
9	0.968	0.0000	0.0000	0.0000
10	0.967	0.7637	0.7637	0.0000

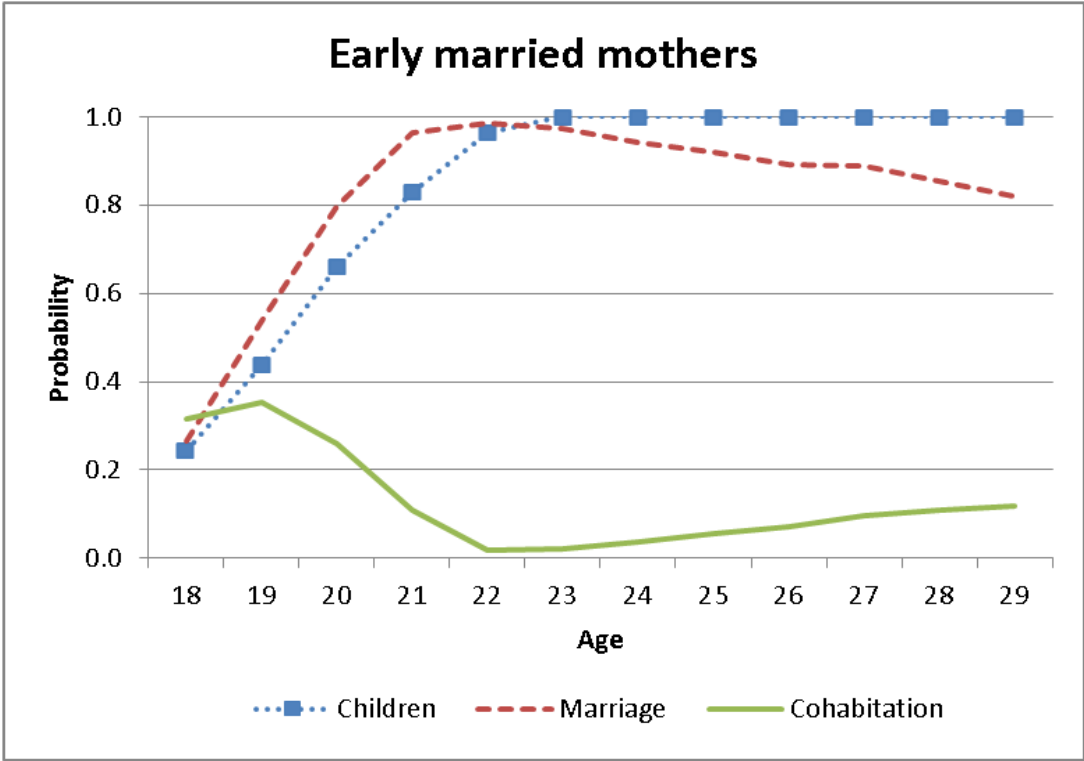
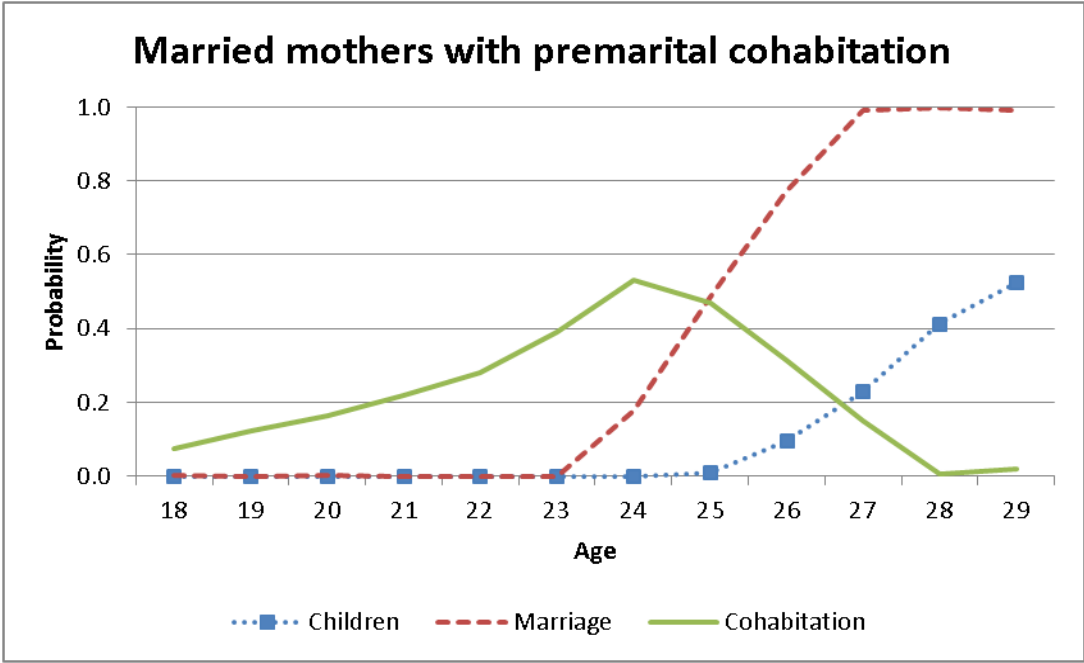
Defining the Pathways

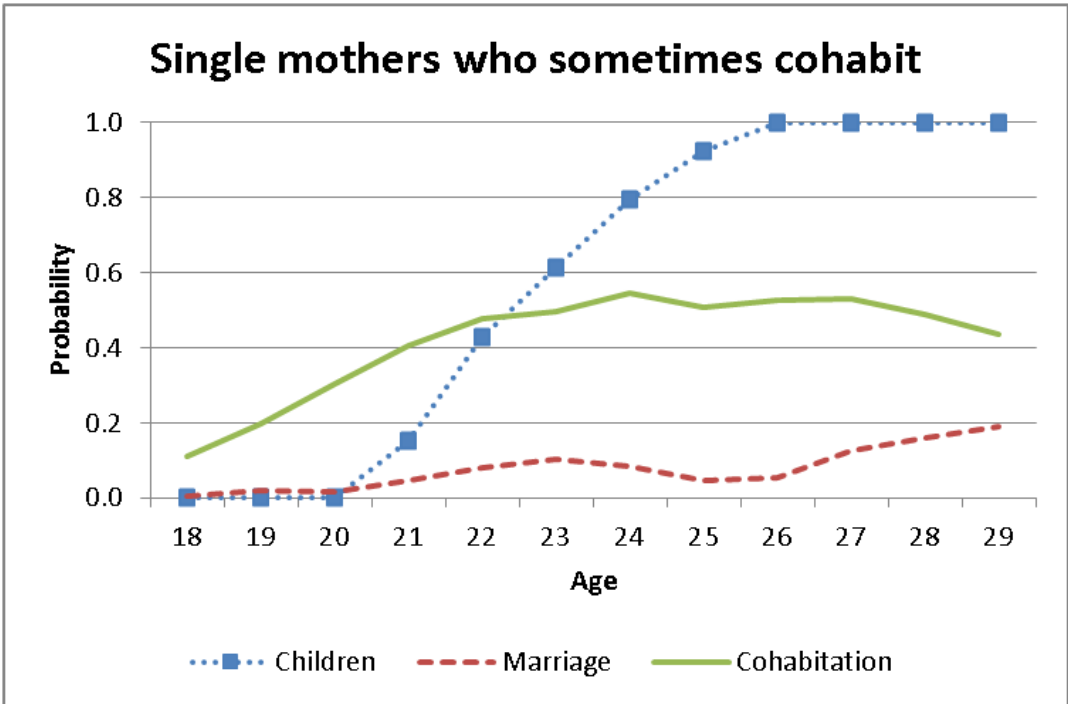
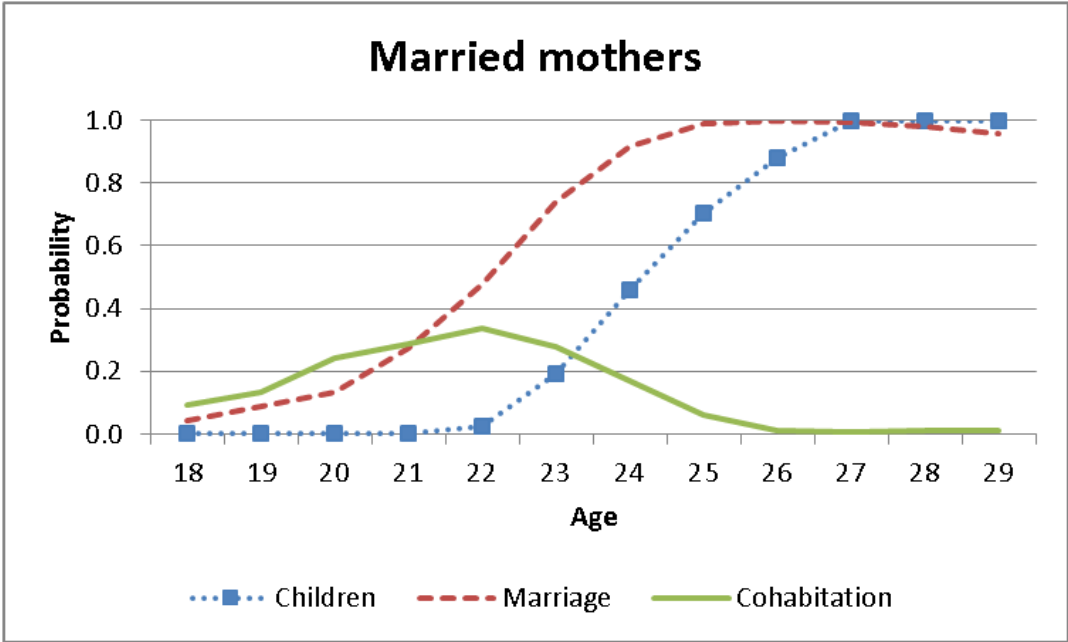
Figure 1 shows graphical results from the latent class analysis. Nine pathways towards family formation were experienced by the sample. For each pathway the blue line represents the probability of being a mother at each age between 18 and 29, the red line represents the probability of being married at each age, and the green line represents the probability of cohabiting at each age.

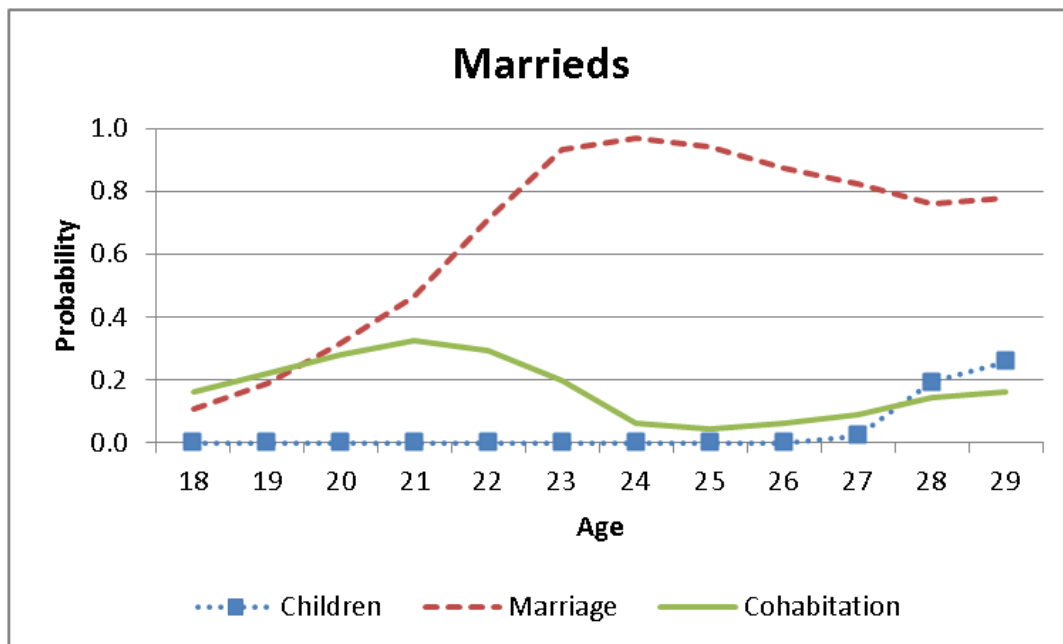
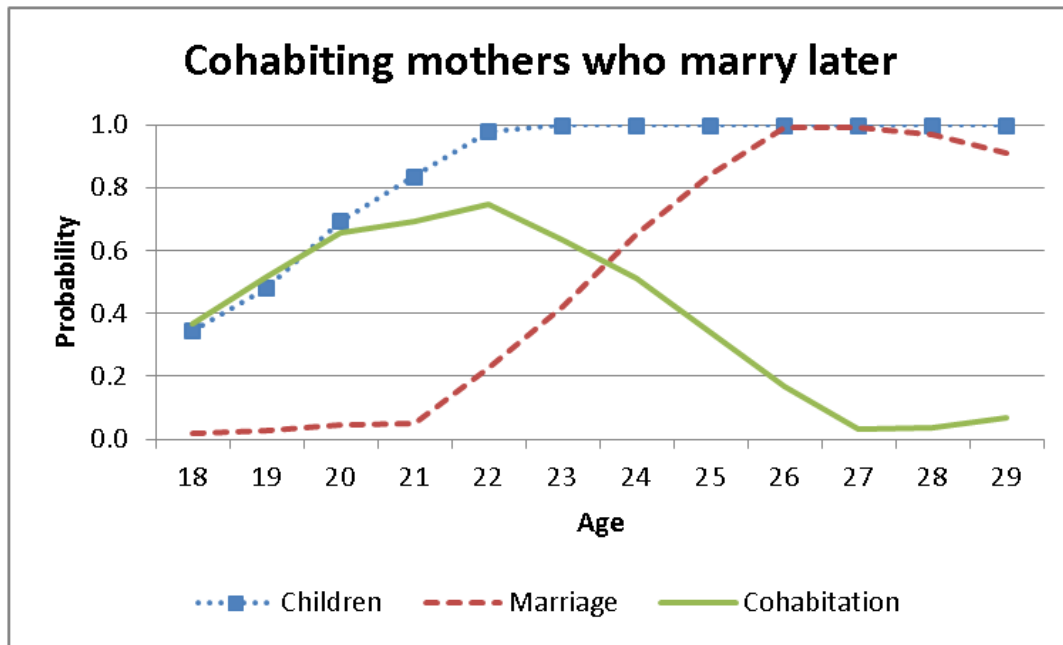
Figure 1: Family Formation Pathways from Latent Class Analysis











Pathway 1 (20% of sample) consisted of “delayed starters” - those who had a low probability of experiencing any family formation until the late 20s. When they did begin family formation, they followed a trajectory of cohabitation first, then marriage, and then children third. Roughly 35% of young women who followed the “delayed starters” trajectory became a

cohabitor by age 29. Roughly 12% got married by age 29, and 5% became mothers. For the few who did get married, the mean age at first marriage was 27.86 years.

Pathway 2 (13.5% of sample) consisted of “cohabitators” – those who had a high probability of cohabiting only during their 20s. All young women who followed the pathway for “cohabitators” had at least one cohabiting union between adolescence and the late twenties.

Approximately 34% cohabited with one partner. Cohabitation with two partners, however, was most common for this group, with approximately 39% of the sample having had two cohabiting partners by age 29. Roughly 18% of the “cohabitators” had three cohabiting partners, 6% had four cohabiting partners, and roughly 3% had five or more cohabiting partners. About one-third of the 524 women who followed the “cohabitators” trajectory became married by age 29. Of those who got married, 86.5% married their cohabiting partner.

Pathway 3 (12.4% of sample) consisted of “early single mothers who often cohabit” (or who will be referred to from now on as “early single mothers” for simplicity) – those who had a high probability of single motherhood during their teens, and a roughly 50% chance of cohabiting at any given age during their 20s. All young women from the sample who followed the pathway for “early single mothers” became mothers by wave four. Approximately 45% of these women were mothers by age 18, two-thirds were mothers by age 19, 93% were mothers by age 20, and virtually all were mothers by age 21.

Roughly 91% of these women reported having cohabited at some point during their teen years or twenties, with the ages at which they experienced cohabitation varying. In contrast, only about one-third ever married during their teens and twenties. Roughly 41% of those who were mothers by age 18 were also cohabiting at age 18, but just 8% of those who were mothers by age 18 were married at age 18. Roughly 58% of those who became mothers at age 19 were also

cohabiting at age 19, compared to roughly 14% who were married. Approximately 52% of those who became mothers at age 20 were also cohabiting age 20, and approximately 18% of those who became mothers at age 20 were also married at age 20. Approximately 68% who became mothers at age 21 were cohabiting at age 21, and roughly 11% who were mothers at age 21 were also married at age 21.

Figure one shows that the probability of marriage for “early single mothers” increases a little during the late teens and early 20s, possibly because a few are marrying due to having become pregnant, but then many of those marriages end in divorce. The probability of being married increased slightly again during the late 20s, which was when the probability of cohabiting dropped slightly, suggesting that a few respondents were marrying their cohabiting partner. Roughly 18% of the young women in this pathway entered a marriage between the ages of 26 and 29.

Pathway 4 (11.7% of sample) consisted of “married mothers with premarital cohabitation” – those who tended to enter cohabitation first, had the cohabitation lead into marriage, and then had a child following the marriage. Virtually all women who followed this pathway entered a marriage by age 29, with the mean age at first marriage being roughly 25.5 years of age. 70% of women following this pathway cohabited at some point by age 25 (the mean age at first marriage for this pathway), and roughly 91.1% of those cohabiting got married to their cohabiting partner. 58% of respondents in this pathway became mothers by age 29. Approximately 7.2% of respondents in this pathway experienced a divorce by age 29, and roughly 3.1% of respondents experienced a divorce within the first three years of marriage.

Pathway 5 (10.7% of sample) consisted of “early married mothers” – those who had a high probability of marrying by the early 20s (low odds of premarital cohabitation), became a

mother soon after, and then had some odds of divorcing by the late 20s. All of the women in the sample who followed this pathway entered into a marriage, with the mean age at first marriage being 19.3 years of age. Additionally, all of the women in the sample who followed this pathway became mothers, with the mean age at first birth being 19.7 years. A large proportion of respondents who followed this pathway got divorced, relative to other pathways, with 40% of women experiencing a divorce by age 29. Roughly 8.5% of women in the sample who became early married mothers experienced a divorce within the first three years of marriage.

Pathway 6 (10.5% of sample) consisted of “married mothers” – those who had a high probability of marrying during the mid-20s, and then became mothers after. All women in the sample who followed this pathway entered into a marriage, with the mean age at first marriage being 22.2 years of age. Roughly 49% of women in the sample following this pathway had ever cohabited at some point by age 22 (this group’s mean age at first marriage). All women who followed this pathway also became mothers, with the mean age at first birth being 24.8 years. Approximately 12% of the sample who followed this pathway got divorced by age 29, and roughly 4.5% of those following this pathway experienced a divorce within the first three years of marriage.

Pathway 7 (8.9% of sample) consisted of “single mothers who sometimes cohabit” (or who will be referred to from now on as “single mothers”) – those who had a high probability of single motherhood in their early to mid-20s, and roughly a 50% chance of cohabiting at any given age during their 20s. All young women from the sample who followed the pathway for “single mothers” became mothers by wave four. Approximately 38% of these women were mothers by age 22, 61% were mothers by age 23, 80% were mothers by age 24, 93% were mothers by age 25, and virtually all were mothers by age 26.

Roughly 86% of these women reported having cohabited at some point during their teen years or twenties, with the ages at which they experienced cohabitation varying. In contrast, only about one-third ever married during their teens and twenties. Roughly 65% of those who were mothers by age 22 were also cohabiting at age 22, but just 16% of those who were mothers by age 22 were married at age 22. Roughly 63% of those who became mothers at age 23 were also cohabiting at age 23, compared to roughly 6% who were married. Approximately 58% of those who became mothers at age 24 were also cohabiting age 24, and approximately 11% of those who became mothers at age 24 were also married at age 24. Approximately 78% who became mothers at age 25 were cohabiting at age 25, and roughly 11% who were mothers at age 25 were also married at age 25. Roughly 69% of those who became mothers at age 26 were also cohabiting at age 26, compared to close to 0% who were married.

Pathway 8 (6.5% of sample) consisted of “cohabiting mothers who marry later” – those who had children within cohabiting unions during their early 20s, then married in their mid-20s (often to their cohabiting partner), and a few who divorced in their late 20s. The mean age at first marriage for this group was 23.5 years of age, which also happened to be the crossover point where the probability of cohabiting no longer exceeded the probability of being married. Virtually all eventually married, with 77.5% married between the ages of 23 and 26. 89.73% of the women in this pathway married a cohabiting partner. Roughly one-quarter of women in this pathway divorced by age 29, and roughly 11.5% experienced a divorce within the first three years of marriage.

All of the women in the sample who followed the pathway of “cohabiting mothers who marry later” did become mothers, with the mean age at first birth being 19.3 years. The vast majority (approximately 94%) cohabited at some point during their teens and twenties, and the

vast majority (roughly 92%) of those who cohabited became a cohabitor by age 23 (their mean age at first marriage). Roughly half of the women who followed this pathway had one cohabiting partner. Approximately one-quarter though had two cohabiting partners. 14% had three cohabiting partners, and about 2% had four or more cohabiting partners.

And finally, pathway 9 (5.6% of the sample) consisted of “marrieds” – those who had a high probability of marrying in their early to mid-20s, and lower probability of experiencing motherhood and premarital cohabitation, during the 20s. Virtually all women from the sample who followed this pathway became married by age 29, with the mean age at first marriage being roughly 21 years of age. Approximately 30% became mothers by age 29. Interestingly, about half of respondents in this pathway did experience a cohabitation at some point by age 21 (their mean age at first marriage), although the proportion having experienced a pre-marital cohabitation from this pathway was relatively smaller than that from the pathway titled, “married mothers with premarital cohabitation”, where about 70% of respondents experienced a cohabitation at some point by the mean age at first marriage. 38% of women who followed this pathway became divorced by age 29, and roughly 12% experienced a divorce within the first three years of marriage.

Table 8 shows the overall breakdown of respondents in each family formation pathway followed from adolescence through wave four. Of the 3,907 respondents, 784 (20%) were identified with the latent class procedure as Delayed starters - the most frequently occurring group. 524 respondents (13.5%) followed the pathway for Cohabitors, 486 (12.4%) followed the pathway for Early single mothers, 460 (11.7%) became Married mothers pre-marital cohabitation, 421 (10.7%) became early married mothers, 413 (10.5%) followed the pathway for married mothers, 348 (8.9%) followed the pathway for single mothers, and 256 (6.5%) became

cohabiting mothers who marry later. The pathway least likely to be followed, the marrieds, contained 215 respondents (5.6%).

Table 8: Number of Respondents in Each Family Formation Pathway

	N	%
Delayed Starters	784	20.0
Cohabitors	524	13.5
Early Single Mothers	486	12.4
Married Moms with Pre-Cohabitation	460	11.7
Early Married Mothers	421	10.7
Married Mothers	413	10.5
Single Mothers	348	8.9
Cohabiting Mothers who Marry Later	256	6.5
Married	215	5.6
Total	3,907	100.0

Overall it appears that, when following young women’s family formation experiences through age 29, for those who became married, the early married mothers had the youngest mean age at first marriage while delayed starters had the oldest mean age at first marriage (19.3 years of age and 27.86 years of age, respectively), compared to married mothers with premarital cohabitation (25.5 years of age), cohabiting mothers who marry later (23.5 years of age), married mothers (22.2 years of age), and marrieds (21 years of age). Women who followed the pathway for “cohabiting mothers who marry later” were most likely to have cohabited prior to their group’s overall mean age at first marriage (92%), compared to married mothers with premarital cohabitation (70%), marrieds (50%), and married mothers (49%).

In general, mean age at first birth among the groups of mothers tended to be lower among the mothers who had non-marital births (e.g., age 19.3 for “cohabiting mothers who marry later”) or for early married mothers (e.g. age 19.7), compared to mothers with more average ages at first

marriage (e.g. age 24.8 among “married mothers”). Odds of cohabitation during one’s teens and twenties ranged from being less likely among some groups (e.g. 35% for “delayed starters”), to very likely (e.g., 86% for “single mothers”), and extremely likely for other groups (e.g., 100% for “cohabitators”).

Looking across the groups of pathways, “marrieds” and “cohabiting mothers who marry later” were more likely to get divorced within the first three years of marriage (12% and 11.5%, respectively) compared to “married mothers”, “early married mothers”, and “married mothers with pre-marital cohabitation”. The groups least likely to divorce within the first three years of marriage were the “married mothers” and “married mothers with pre-marital cohabitation” (4.5% and 3.1%, respectively). Women who married relatively later, and then had children soon after getting married, it appeared, were less likely to divorce early into their marriage than women who had non-marital births prior to marriage, or compared to women who did not have children relatively soon after getting married.

Descriptive Characteristics of the Pathways

Table 9 shows the percentage breakdown of the respondents’ parents’ educational attainment for each of the pathways. Results suggest that women who became Delayed starters, Married, or Married moms with Premarital Cohabitation were more likely to have come from parents that had at least a Bachelor’s degree compared to all other groups (except compared to Cohabitators). For women who delayed family formation, 31.5% had parents with at least a Bachelor’s. For the Married group, 29.2% had parents with Bachelor’s or more, and for the Married moms with Premarital cohabitation, 39.4% had at least a Bachelor’s degree. Married moms with premarital cohabitation (at just 5%) had a significantly smaller proportion of parents

with less than high school than Early Single Moms, for whom 18% had parents with less than high school.

Table 9: Percent Distribution of Parents' Education by Pathway

	Delayed	Cohabitors	Early Single Moms	Married Moms - PreCohab	Early Married Moms	Married Moms	Single Moms	Cohabiting Moms who Marry Later	Marrieds
Less than H.S.	8.9	10.2	18	5	16.5	11.1	16.9	16.2	12.3
H.S. degree	28.8	32.3	44.9	23.5	44.1	38.6	45.1	46.4	29.7
Some college	30.8	31.2	26.7	32.1	24.1	29.9	26	22.4	28.8
B.A. or more	31.5	26.3	10.4	39.4	15.3	20.4	12	15	29.2
Total	100	100	100	100	100	100	100	100	100

Table 10 shows the percent of women within each pathway that were of each race/ethnicity. Early Single Moms & Single Moms (with 37.9% and 32.8%, respectively) were more likely to consist of black respondents than other pathways. Compared to many other pathways, early married moms were more likely to consist of whites (76.9%) and Hispanic respondents (13.2%), and marrieds were more likely to consist of whites (75.2%) and Hispanic respondents (15.1%). Married moms with premarital cohabitation were also more likely to consist of white respondents (82.6%), and delayed starters were also more likely to consist of Hispanics (17.4%) than other pathways. Cohabitors and cohabiting moms who marry later contained proportions of respondents from each of the racial/ethnic backgrounds that were neither small nor large relative to the proportions within other pathways.

	Delayed	Cohabitors	Early Single Moms	Married Moms - PreCohab	Early Married Moms	Married Moms	Single Moms	Cohabiting Moms who Marry Later	Marrieds
White	53.9	70.9	47.5	82.6	76.9	74.1	48.1	64.5	75.2
Black	21.7	15.7	37.9	7	7.7	7.8	32.8	19.6	4.6
Hispanic	17.4	9	11.7	6.2	13.2	10.9	11.9	11.9	15.1
Other	7	4.4	2.9	4.2	2.2	7.2	7.2	4	5.1
Total	100	100	100	100	100	100	100	100	100

Table 11 shows the percent of women within each pathway that came from each family structure. Married moms with premarital cohabitation, delayed starters and married moms were more likely to have come from two biological parents than women from other pathways (69.9%, 60.6%, and 60.2%, respectively). Early single moms (22%), early married moms (19.8%), and cohabiting moms who marry later (19%) were more likely to have come from step parent households relative to married moms with premarital cohabitation (12.4%) and delayed starters (12.9%). Early single moms (31.1%), single moms (31.7%), and cohabiting moms who marry later (31.8%) were more likely to have come from single mother households relative to married moms with premarital cohabitation (12.2%), married moms (15.6%), and marrieds (15.4%).

	Delayed	Cohabitors	Early Single Moms	Married Moms - PreCohab	Early Married Moms	Married Moms	Single Moms	Cohabiting Moms who Marry Later	Marrieds
Two bio parents	60.6	51.7	24	69.9	42.4	60.2	38.4	31.6	58.1
Step parents	12.9	16.1	22	12.4	19.8	17.5	16.1	19	16.7
Single mother	19.5	23.4	31.1	12.2	20	15.6	31.7	31.8	15.4
Single father	2.1	3.1	4.2	1.4	1.3	1	5.2	0.8	3.9
Other type	4.9	5.7	18.7	4.1	16.5	5.7	8.6	16.8	5.9
Total	100	100	100	100	100	100	100	100	100

Table 12 shows the percent of women earning each income bracket level during wave four, for each pathway. It also shows the mean level of income at wave four for women in each

pathway. Married mothers with premarital cohabitation and Marrieds (who had mean income ranges in the upper \$50,000s and upper \$40,000s, respectively), both had significantly greater income during young adulthood than many other groups. Early single mothers & Single mothers, however, who both had mean incomes in the \$20,000 ranges, reported significantly lower income during young adulthood than other groups.

Table 12: Percent Within Each Annual Household Income Category by Pathway

	Delayed	Cohabitors	Early Single Moms	Married Moms - PreCohab	Early Married Moms	Married Moms	Single Moms	Cohabiting Moms who Marry Later	Marrieds
≥ \$150,000	4.5	8.3	1.9	9.2	2.1	3.8	2	2.6	5.8
\$100,000 to \$149,999	10.2	14.4	4.2	20.8	5.6	15.7	4.4	4.3	14.8
\$75,000 to \$99,999	10.2	12	8.7	24.7	18.2	17.7	7.2	10.9	22.3
\$50,000 to \$74,999	22.7	23.9	13.9	27.3	23.8	29.2	18.6	26.3	30.8
\$40,000 to \$49,999	12.3	9.5	8.7	6.6	12.1	13.3	11.3	21.8	7.8
\$30,000 to \$39,999	14	11.5	14	3.1	11.9	10.4	14.3	9.3	4.7
\$25,000 to \$29,999	5	3.8	11.8	2.5	5.4	4.1	8.1	4.2	3.2
\$20,000 to \$24,999	5.1	4.5	6.8	1.3	7.1	3.2	10	8.6	4
\$15,000 to \$19,999	3.7	2.4	6.5	1.6	3.7	0.8	5.7	3.4	1.4
\$10,000 to \$14,999	4.1	2.4	8.7	1	6.2	0.3	7.5	2.6	1.4
\$5,000 to \$9,999	4	4.5	7.4	1.8	1.7	0.1	4.9	2.7	1.4
< \$5,000	4.4	2.8	7.4	0.2	2.2	1.4	6.1	3.2	2.5
Mean	7.6 (\$30s)	8.2 (\$40s)	6.3 (\$20s)	9.4 (\$50s)	7.7 (\$30s)	8.7 (\$40s)	6.6 (\$20s)	7.6 (\$30s)	8.8 (\$40s)

Overall, adolescents who came from homes with two-biological parent homes and greater parental education were more likely to have followed pathways involving marriage or delayed family formation. The women in these pathways also went on to have greater economic resources (i.e. greater income) during young adulthood than women who had followed other pathways. Adolescents who were black were more likely to have followed pathways involving single motherhood and early single motherhood. Adolescents who came from homes with step-parents and single mothers were also more likely to have followed pathways involving non-

marital motherhood. The women in these pathways also went on to have fewer economic resources during young adulthood than those from other pathways, such as those involving both marriage and motherhood.

Pathways followed for Each Number of Union Transitions

Lastly, Table 13 shows which family formation pathways were followed by each experienced number of union transitions. A crosstab of the frequency distribution for women in the pathways and the number of experienced union transitions was performed in order to see how the two analyses are related together. The pathways titles can hint at whether each group of women experience a higher or lower number of transitions, but this analysis shows in more detail how the two aspects of family formation are related. Overall, Delayed starters were disproportionately in the zero transitions group, whereas cohabitators and those who engaged in non-marital motherhood were more likely to be among those with many transitions. These results are consistent with national trends.

Table 13: Crosstab of Number of Union Transitions by Family Formation Pathway in Percentages (Raw #s)

	Number of Union Transitions									Total
	0	1	2	3	4	5	6	7	8+	
Delayed	84.83	11.1	27.16	5.48	6.25	1.22	4.35	0	0	20.07 (784)
Cohabitors	0	7.36	21.19	16.28	29.3	26.94	21.74	20	32.56	13.41 (524)
Early Single Moms	6.19	5.26	16.26	14.55	26.95	18.37	40.22	30	32.56	12.44 (486)
Married Moms with Pre-Cohab	0	21.94	2.67	12.05	0.78	8.57	2.17	8.75	4.65	11.77 (460)
Early Married Moms	0	14.78	8.02	14.24	8.98	9.8	6.52	8.75	6.98	10.78 (421)
Married Moms	0	21.35	3.29	7.82	0.78	5.71	1.09	5	1.16	10.57 (413)
Single Moms	8.98	3.81	15.02	11.27	17.97	10.61	14.13	10	8.14	8.91 (348)
Cohabiting Moms who Marry Later	0	7.03	2.67	10.95	5.08	11.84	6.52	12.5	9.3	6.55 (256)
Married	0	7.36	3.7	7.36	3.91	6.94	3.26	5	4.65	5.5 (215)
Total	100 (501)	100 (1,522)	100 (486)	100 (639)	100 (256)	100 (245)	100 (92)	100 (80)	100 (86)	100 (3907)

For the 501 women who've never experienced a cohabitation or marriage by their late twenties/early thirties, the vast majority (roughly 85%) followed the trajectory for Delayed starters. For the 1,522 women who were currently in their first unions at wave four (i.e. those with one union transition), most followed trajectories involving both marriage and motherhood; approximately 22% were Married mothers with premarital cohabitation, 21% had followed the trajectory for becoming a Married mother, and roughly 15% became Early married mothers.

For the 486 women who were currently exited from their first union at wave four (i.e. those with two union transitions), most had either delayed family formation (27%), were Cohabitors (22%), or engaged in some form of single motherhood. (16% were Early single mothers; 15% were Single mothers). Similar to those with two union transitions, the 639 women with three transitions who were currently in their second union at wave four had proportions

within each family formation pathway that were distributed relatively more even compared to the breakdown of other groups within each number of union transitions.

Among women who had a higher number of union transitions (four, five, six, seven, and eight or more), they were more likely to have followed trajectories for cohabitation or non-marital motherhood. For example, among the 256 who were currently exited from their second union at wave four, most had followed the trajectories for Cohabitation (29%), Early single motherhood (26%), and Single motherhood (18%). For the 92 young women currently broken up from their third union during their late twenties and early thirties, roughly 40% had become Early single mothers, and roughly 22% had become Cohabitators. For the women who had eight or more union transitions by wave four, one third became Cohabitators and one third became Early single mothers. Only 9%, 8%, 7%, 5%, 5%, and 1% became Cohabiting mothers who marry later, Single mothers, Early married mothers, Married mothers with premarital cohabitation, Marrieds, and Married mothers, respectively.

So far, cohabitation appears to be a frequently common experience for this sample of current young women, more common than marriage. The majority of respondents have cohabited at least once, with almost a third of respondents having cohabited with two or more partners throughout their teens and twenties. Of those who married, just over one quarter experienced at least one divorce during this time in their life. For those currently in their first unions at wave four, most had followed pathways involving marriage whereas for those currently broken up from unions or who are currently in a subsequent union, most were either delayed starters, cohabitators, or non-marital mothers. The fact that nine latent classes were found, in general, suggests great variety in the pathways women follow throughout their teens and entire twenties. Having nine classes also highlights how inadequate a single snapshot measure (e.g. got married)

or transition is likely to be in understanding the effects of family formation on women's well-being.

Chapter 6

Associations between Family Formation Pathways and Young Women's Well-Being

This chapter presents results that address the second research question of how different pathways towards family formation affect young women's subsequent well-being in young adulthood. As a preliminary step, Table 14 presents the mean scores on the well-being indicators at wave one (adolescence), the mean scores at wave four (late twenties/early thirties), and the mean change over time (without the control for change in age), separately for each family formation pathway that young women follow. The scores in the each column indicate whether respondents who followed that particular pathway experienced an increase or decrease, over time, in depression, self-rated health, delinquency, and heavy drinking.

Table 14 also shows the results of four F-tests that were used to test whether the pathways as a group were significantly associated with the overall changes in each of the four well-being outcomes. For tests which showed significance at the .05 level, I took the group of pathways, ran regressions and rotated the reference group in order to examine whether each pathway showed a significantly greater increase or decrease in the mean change score compared to the other pathways. Significance test results from the four F-tests are presented in the second to last column, and results from the rotation of the reference group are presented in the last column.

Results from Table 14 suggest, first of all, that the type of family formation pathway followed was not significantly associated with the overall change in depression between adolescence and young adulthood. Interestingly, F-tests suggest that when having examined levels of depression at each of the two specific time points, women did vary in their depression scores by the type of pathway they follow. For example, young women who later became

married mothers, married mothers with premarital cohabitation, marrieds, and delayed starters all started off with relatively low levels of depression at wave one, whereas single mothers, early single mothers, and cohabiting mothers who marry later all started off with relatively high levels of depression. Young women who became married mothers, and married mothers with premarital cohabitation, had relatively low levels of depression at wave four; young women who became single mothers and early single mothers had relatively high levels of depression at wave four.

In general, however, all groups of women declined in depression scores between the two waves, and therefore the change score itself was not significantly associated with the pathways as a group. The groups that started off higher on depression remained higher, and those who started off lower remained relatively lower. The decline in depression seen among the groups is consistent with previous research suggesting that depressive symptoms and emotional well-being improve from adolescence to young adulthood (Adkins, Wang, Dupre, van den Oord, & Elder, 2009; Roberts, Walton, & Viechtbauer, 2006).

The type of pathway followed was also not significantly associated with the overall change in self-rated health between adolescence and young adulthood. All groups exhibited a decline in self-rated health over time. Although there were some differences in where people started off at wave one, and where people ended up at wave four, the change scores themselves were not significantly associated with the pathways as a group. Most people who rated their health relatively higher during adolescence continued to do so during young adulthood, and most who rated their health relatively more poorly during adolescence continued to rate it poorly during young adulthood. Young women who became married mothers, married mothers with premarital cohabitation, and delayed starters all started off rating their health relatively highly

during adolescence, and continued to do so relative to other groups during the late twenties/early thirties. Single mothers, early single mothers, and early married mothers started off with lower self-rated health during adolescence; early single mothers, single mothers, and the cohabiting mothers who marry later rated their health the lowest during young adulthood.

Changes in mean levels of delinquency and heavy drinking were significantly associated with the type of family formation pathway experienced by young women. For delinquency, each of the nine groups of women exhibited a significant decline between adolescence and the late twenties/early thirties, which is consistent with previous research suggesting that levels of delinquency generally peak during adolescence and decline during adulthood (Steffensmeier et al., 1989). Young women who became delayed starters, for example, experienced a significant decline of .06 on the delinquency scale between the two waves. Those who followed the pathways of early single mothers, married mothers with premarital cohabitation, early married mothers, married mothers, single mothers, cohabiting mothers who marry later, and marrieds experienced significant declines of .16, .08, .11, .08, .14, .14 and .05, respectively, between adolescence and young adulthood. Single mothers, early single mothers, and cohabiting mothers who marry later started off with greater delinquency during adolescence than the other groups, but by young adulthood the cohabitators had the greatest delinquency, although most groups overall had similar, low delinquency scores.

Some of the women from certain pathways experienced significantly greater declines in delinquency compared to women from other pathways, although these women usually started off at higher levels of delinquency during adolescence. Women who became single mothers, early single mothers, cohabiting mothers who marry later, and cohabitators all experienced significantly greater declines in levels of delinquency than women who became married mothers, marrieds,

and delayed starters. Early married mothers also exhibited a significantly greater decline in delinquency compared to delayed starters and those solely married. But, early single mothers experienced significantly greater declines in delinquency than early married mothers, plus early single mothers also had significantly greater declines than married mothers with premarital cohabitation and sole cohabitators. Women who became single mothers experienced a significantly greater decline in compared to married mothers with premarital cohabitation. Overall, women who followed pathways involving non-marital motherhood started off with greater levels of delinquency during adolescence, but also exhibited significantly greater declines in delinquency than women from other pathways.

Change in the mean level of heavy drinking was also significantly associated with the type of family formation pathway. Three of the nine groups of women in different pathways experienced significant changes in heavy drinking between adolescence and the late twenties/early thirties. Interestingly, women who followed the pathway of cohabiting motherhood and later marriage exhibited a significant decrease in heavy drinking (-.41). However, women who became delayed starters or solely cohabitators exhibited significant increases in their levels of heavy drinking over time (.42 and .48, respectively). Those who became cohabitators or cohabiting mothers who marry later started off with relatively high levels of heavy drinking at wave one, but by wave four it was the cohabitators and delayed starters who had relatively high levels of heavy drinking.

None of the other six groups experienced a significant increase or decrease in their mean levels of heavy drinking, individually, but most of the groups experienced significantly greater declines or increases in heavy drinking relative to other groups. Cohabiting mothers who marry later, for example, experienced a significantly greater decline in mean level of heavy drinking

compared to each of the other groups of young women. Delayed starters and Cohabitors both experienced significantly greater increases in their mean levels of heavy drinking compared to single mothers, early single mothers, married mothers, early married mothers, married mothers with premarital cohabitation, and cohabiting mothers who marry later. Overall, results suggest that cohabitators and delayed starters are at greatest risk for increased levels of heavy drinking. Results here also suggest that marriage and childbearing bring stability, and are associated with significant improvements in risky behaviors.

Table 15 presents results from the examination of the association between family formation pathways and well-being with a more stringent test. By adding the control for change in respondent's age (a time-varying predictor) to the change score regression models, and leaving out measures of all predictors that do not change over time, the regressions used to estimate the associations between pathways and changes in well-being between waves one and four become fixed effects regressions. Using a fixed effects regression analysis, this naturally controls for all factors that stay constant over time and thus further reduces selection bias in the change score models.

Results from Table 15 suggest that even when having used a fixed effects analysis, family formation pathways were still significantly associated with changes in delinquency and heavy drinking between adolescence and the late twenties / early thirties, but not with changes in depression or self-rated health.³ Similar to Table 10, all groups experienced significant declines in delinquency, with non-marital mothers (single mothers, early single mothers, and cohabiting mothers who marry later) having experienced the greatest declines. Young women who followed the pathways for delayed starters or cohabitators each experienced significant increases in heavy

drinking over time, and those who became cohabiting mothers who marry later experienced a significantly greater decline in heavy drinking compared to women in other pathways.

From looking at respondents' well-being scores at both waves, and their overall change scores, one thing that stands out is the importance in looking where groups of individuals started off in wave 1 on depression, self-rated health, delinquency, and heavy drinking, as well as where they ended up in wave 4. If only the most recent wave of data were analyzed, one could accidentally conclude big differences in the link between family formation pathway followed and certain outcomes. Looking at the depression scores from wave four, for example, it appears as if married mothers and married mothers with premarital cohabitation have significantly lower levels of depression than all other groups, and one might presume that becoming a married mother could lead to lower depression. It's important to remember, however, that these groups also started off with less depression at wave 1 compared to other groups. Similarly for self-rated health, married mothers and married mothers with premarital cohabitation rated their health significantly higher during young adulthood than other groups of young women, but these individuals started off rating their health higher during adolescence.

Looking at both waves was also important for outcomes such as delinquency. Looking at only wave four, all groups of young women had a roughly similar range of delinquency. The scores at wave one though varied more. It was the young women who started off with greater delinquency during adolescence who went on to become non-marital mothers. These women started off with the highest delinquency relative to all other groups, and therefore experienced the greatest decline over time. If this study only looked at delinquency during young adulthood, it would have appeared that pathways and delinquency are not linked in a substantively strong way. However, by including levels of delinquency during adolescence, one can see that there is

some selection with regard to who's entering certain pathways. Those who were more delinquent during adolescence were statistically more likely to become single mothers, early single mothers, and cohabiting mothers who marry later. By their late twenties, either due to the experience of motherhood, aging out of it, or a combination of factors, non-marital mothers then had levels of delinquency similar to all other women, all of whom declined overtime.

Looking back at the previously proposed hypotheses it appears that none of the hypotheses regarding pathways and changes in depression or self-rated health were supported (hypotheses #1 and #2). However, there was some support for the hypotheses regarding pathways and changes in delinquency and heavy drinking. Table 16 summarizes the previously proposed hypotheses regarding pathways and well-being, and states whether each hypothesis was supported.

Young women who followed pathways with non-marital motherhood did experience their own significant declines in delinquency, and had significantly greater declines in delinquency than young women following pathways that do not involve non-marital motherhood (hypothesis #3). Non-marital mothers were particularly more likely to experience significantly greater declines than others with regard to delinquency, with single mothers, early single mothers, and cohabiting mothers having exhibited a greater decline than delayed starters, marrieds, and married mothers. Some of these non-marital mothers (e.g., cohabiting mothers) experienced a significantly greater decline in heavy drinking than women who followed all other pathways (also hypothesis #3).

Young women who followed pathways with marriage also experienced a significant decline in delinquency between adolescence and young adulthood, although they did not experience a significant decline in heavy drinking. Additionally, young women who followed

pathways involving marriage did not experience significantly greater improvements in delinquency than other groups, and they did not exhibit significantly greater declines in heavy drinking than other groups. Only the cohabiting mothers who marry later had greater declines in delinquency than other women. Hypothesis #4 therefore was not supported.

Overall, results thus far suggest that young women who started off with greater delinquency during adolescence went on to become non-marital mothers, and then experienced the greatest declines in delinquency between adolescence and adulthood, which offers support to theories presented by Edin & Kefalas (2005) and Kreager, Matsuda, & Erosheva (2010). Also, it's the women who do not follow pathways involving marriage, or motherhood (regardless of marriage), that experience significant increases in heavy drinking (i.e. the delayed started and cohabitators). Family formation pathways may not be significantly associated with changes in health, such as depression or self-rated health, between adolescence and the late twenties / early thirties, but pathways do appear to be significantly associated with changes in risky behaviors, such as delinquency and heavy drinking, occurring between these two time points. Next, the link is explored between well-being and the number of union transitions.

	Family Formation Pathway									(F test)	Change Score Significant Comparisons (<i>p</i> < .05)
	(1) Delayed	(2) Cohabitors	(3) Early single moms	(4) Married mom with pre-cohab	(5) Early married mothers	(6) Married mothers	(7) Single mothers	(8) Cohabiting moms who marry later	(9) Marrieds		
Depression - wave 1	1.68	1.78	1.89	1.68	1.80	1.74	1.82	1.85	1.72	6.86 ***	
Depression - wave 4	1.66	1.67	1.76	1.53	1.68	1.55	1.76	1.68	1.67	8.57 ***	
Change Score	-0.03	-0.12**	-0.14**	-0.14***	-0.12**	-0.18***	-0.07	-0.17**	-0.05	1.79	
Self rated health - wave 1	3.84	3.72	3.52	4.03	3.66	3.84	3.59	3.64	3.74	6.52 ***	
Self rated health - wave 4	3.71	3.69	3.39	3.96	3.54	3.76	3.45	3.28	3.65	9.92 ***	
Change Score	-0.13	-0.03	-0.13	-0.07	-0.12	-0.08	-0.14	-0.36**	-0.09	1.04	
Delinquency - wave 1	1.09	1.15	1.19	1.09	1.12	1.08	1.16	1.16	1.07	7.72 ***	
Delinquency - wave 4	1.02	1.03	1.02	1.00	1.01	1.00	1.02	1.02	1.01	8.85 ***	
Change Score	-0.06***	-0.12***	-0.16***	-0.08***	-0.11***	-0.08***	-0.14***	-0.14***	-0.05***	6.41 ***	(1,6,9 > 2,8,7,3) (4,5,2 > 3) (1,9 > 5) (4 > 7)
Heavy Drinking - wave 1	1.78	2.33	1.95	1.96	1.92	1.74	2.01	2.19	1.83	7.22 ***	
Heavy Drinking - wave 4	2.20	2.81	1.96	2.11	1.87	1.68	1.96	1.77	2.00	13.99 ***	
Change Score	0.42***	0.48***	0.01	0.15	-0.05	-0.06	-0.04	-0.41***	0.17	8.04 ***	(1,2,3,4,5,6,7,9 > 8) (1,2 > 3,4,5,6,7)

Table 15: Fixed Effects (F.E.) Analysis of Young Women's Well-being by Family Formation Pathway (with rotation of the reference group)

	Family Formation Pathway									(F test)	Change Score Significant Comparisons ($p < .05$)
	(1) Delayed	(2) Cohabitors	(3) Early single moms	(4) Married mom with pre-cohab	(5) Early married mothers	(6) Married mothers	(7) Single mothers	(8) Cohabiting moms who marry later	(9) Marrieds		
F.E. Change in Depression ^a	-0.02	-.12**	-.14**	-.14***	-.12**	-.18***	-.07	-.17**	-.05	1.82	
F.E. Change in Self-rated Health ^a	-.13	-.03	-.13	-.07	-.12	-.08	-.14	-.35**	-.09	1.07	
F.E. Change in Delinquency ^a	-.06***	-.12***	-.16***	-.09***	-.11***	-.08***	-.14***	-.14***	-.05***	6.39 ***	(1,6,9 > 2,8,7,3) (4 > 7) (4,5,2 > 3) (1,9 > 5)
F.E. Change in Heavy Drinking ^a	.42***	.48***	.01	.15	-.05	-.06	-.04	-.41**	.17	7.99 ***	(1,2,3,4,5,6,7,9 > 8) (1,2 > 3,4,5,6,7)

Note: ^aThe coefficients for change in age (centered) in the models with F.E. Changes in Depression, Self-rated Health, Delinquency, and Heavy Drinking are .02, .05, -.01, and -.01, respectively.

Table 16: Proposed Hypotheses Regarding Pathways and Indication of Whether They Were Supported

Hypothesis	Supported?
<i>A. Depression and Self-Rated Health</i>	
Hypothesis #1: Young women who follow pathways involving marriage will exhibit a significantly greater decline in depression and smaller decline in self-rated health compared to those who don't follow pathways with marriage.	No
Hypothesis #2: Respondents who follow pathways involving non-marital motherhood, particularly early non-marital motherhood, will experience a smaller improvement in depression and greater decline in self-rated health compared to those who do not experience non-marital motherhood.	No
<i>B. Heavy Drinking and Delinquency</i>	
Hypothesis #3: Respondents in pathways with non-marital childbearing will experience significantly greater declines in delinquency and heavy drinking than young young women following pathways that do not involve non-marital motherhood.	Yes
Hypothesis #4: Young women who follow pathways with marriage will experience significantly greater declines in delinquency and heavy drinking compared to those in pathways that do not involve marriage (excluding those in pathways with non-marital births and no marriage).	No

Chapter 7

Associations between Number of Union Transitions and Young Women's Well-Being

This chapter presents results that address the third research question of how the number of transitions into and out of marriage and cohabitation affect young women's subsequent well-being. Similar to Table 14 in the previous chapter, Table 17 reports the mean scores on all well-being indicators at wave one (adolescence), the mean scores at wave four (late twenties/early thirties), and the mean change over time (without the control for change in age), separately for each number of transitions experienced by the fourth wave. The scores in each column indicate whether respondents who experienced that number of transitions exhibited an increase or decrease, over time, in depression, self-rated health, delinquency, and heavy drinking.

Table 17 also presents the results of the four F-tests that indicate whether the number of union transitions, overall, is significantly associated with the overall change in each of the four well-being outcomes. Similar to before, for tests which showed significance at the .05 level, I took the group of dummies that make up the number of union transitions variable, ran regressions and rotated the reference group in order to examine whether each transition group showed a significantly greater increase or decrease in the mean change score compared to the other transition groups. Significance test results from the four F-tests are presented in the second to last column, and results from the rotation of the reference group are presented in the last column.

This time, the change in depression between adolescence and the late twenties / early thirties was significantly associated with the number of union transitions. Respondents' number of union transitions was also associated with levels of depression at waves one and four. At wave one, respondents who went on to experience a higher number of union entrances and exits started

off with higher levels of depression, and respondents who went on to have one transition (i.e. were currently in their first union at wave four) had the lowest level of depression. At wave four, respondents currently in their first union still had the lowest level of depression, but it was the young women who were currently broken up from unions, particularly those with the higher order union exits, who had the highest levels of depression. Only young women who were currently in unions or who were currently exited from their first or second unions experienced significant declines in depression between adolescence and the late twenties / early thirties. When rotating the reference groups, results suggested that young women currently in their first, second, or fourth union (i.e. most of those currently in unions) had greater declines in depression than young women who had never had a union. Those who exited their 3rd union, and who had eight or more transitions remained at the high levels of depression they started off with back in adolescence. Overall, being in a union, or only having a couple of union exits, was associated with a greater decline in depression between adolescence and young adulthood than never having entered a union.

Results from Table 17 suggest that the number of transitions was not significantly associated with changes in self-rated health, which was similar to the results from Table 14 in which family formation pathways were not found to be significantly associated with changes in self-rated health either. The number of transitions young women went through was associated with their self-rated health, but those who started off with relatively higher, or lower, scores tended to stay relatively higher, or lower.

Similar to the results that examined pathways, changes in mean levels of delinquency and heavy drinking were significantly associated with the number of union transitions experienced by young women. For delinquency, each of the nine groups of women exhibited a significant

decline between adolescence and the late twenties/early thirties. Some women experienced significantly greater declines, however, compared to others. Young women who had exited their 2nd and 3rd unions, were in their 4th union, or who had eight or more transitions (i.e. most of those with a higher number of transitions) had significantly greater declines in delinquency between adolescence and young adulthood than young women currently in their 1st or 2nd unions, those who exited their 1st union, and those who never had a union (i.e. those with a lower number of transitions). Looking at where respondents started off at wave one, it appears that those who later had a high number of transitions also started off with relatively greater levels of delinquency. Those in their first union started off with the lowest delinquency at wave one. By wave four, however, those in their first union, second union, and with zero unions did not differ on delinquency scores, although all three groups did have the lowest levels. At wave four, young women with eight or more transitions had the highest level of delinquency. Overall, having more union transitions was associated with a greater decline in delinquency than fewer transitions, although those with more transitions started off at higher delinquent levels during adolescence.

For heavy drinking, results from Table 17 suggest that young women who never entered a union started off with the lowest levels of heavy drinking at wave one, while young women who go on to exit their third union started off with the highest levels of heavy drinking during adolescence. By wave four, however, respondents currently in their first union now had the lowest levels of heavy drinking. Those who were currently broken up from their third union still had the highest level of heavy drinking. Young women who had exited their 1st or 2nd unions, or who never entered a union, were the only groups to each exhibit a significant change in heavy drinking over time, all of whom had an increase in their levels of heavy drinking. When rotating the reference groups, results suggested that those respondents who had exited their 1st and 2nd

unions, and had zero unions, exhibited significantly greater increases in heavy drinking than respondents currently in their first unions. Also, respondents with zero unions had a significantly greater increase in heavy drinking than those currently in their 1st, 2nd, or 3rd unions. Overall, exiting unions or never being in a union was associated with a greater increase in heavy drinking than currently being in one's first couple of unions.

Table 18 presents results from the fixed effects models.⁴ Results here suggest that even when using this more stringent analysis, the number of union transitions was still significantly associated with changes in depression, delinquency, and heavy drinking between adolescence and the late twenties / early thirties, but not with changes in self-rated health. Similar to Table 17, being in union, or only having had a couple of union exits, was associated with a greater decline in depression between adolescence and young adulthood than never having entered a union. Having more union transitions was associated with a greater decline in delinquency than having fewer transitions, and exiting unions or never being in a union was associated with a greater increase in heavy drinking than currently being in one's first couple of unions.

There is some support for previously suggested hypotheses. Table 19 summarizes the previously proposed hypotheses regarding the number of transitions and well-being, and states whether each hypothesis was supported. Those currently in unions during the last wave of data collection did experience a significantly greater improvement in depression compared to those who had never been in a union (although no differences compared to those currently broken up from unions at the last wave). This goes along with hypothesis #8. Those currently in unions during the most recent wave of data collection also experienced a significantly greater improvement in heavy drinking compared to those who never entered a union (although again no differences compared to those currently broken up from unions), which goes along with

hypothesis #10. Those currently broken up from a union during the last wave of data collection, and those who had never been in a union, each exhibited significant within-group increases in heavy drinking over time (refers to hypothesis #9).

Some hypotheses however were not supported. Those currently in unions did not experience a significantly greater improvement in delinquency compared to those currently exited from unions, nor compared to those who've never entered a union. Respondents currently broken up from unions during the last wave of data collection did not experience significant worsening in depression or self-rated health over time when compared to other groups (refers to hypothesis #5). Respondents with a high number of breakups were also not worse off on changes in depression or self-rated health, either within group or when compared to other groups (referring to hypotheses #6 and #7). In fact, the number of union transitions, as a group, was not significantly associated with changes in self-rated health at all between waves one and four.

It was less clear from previous research and theory on what the link would be between multiple union entrances and exits with risky behaviors. Results here suggest that young women with many entrances and exits had started off with greater levels of delinquency during adolescence, but then experienced relatively large declines in delinquency as they aged into adulthood. Furthermore, they experienced significantly greater declines in delinquency than young women with fewer union transitions, although those with fewer transitions did start off exhibiting less delinquency.

As with the previous chapter, looking at well-being at both waves, and the overall change score, offers greater insight than simply looking at well-being at the most recent wave. With self-rated health, for example, those who started off rating their health as relatively higher continued to do so during young adulthood, and those who started off rating their health as relatively lower

during adolescence continued to do so later on as well. Therefore, the overall change score was not significantly associated with number of transitions. For heavy drinking, if someone were to only look at scores from wave four it would appear that respondents who exited from their 1st or 2nd union, or who had never been in a union, had levels of heavy drinking that fell within a middle range. Without looking at wave one, readers would be missing out on just how much these three groups of respondents actually increased in their heavy drinking over time. Also, for young women currently in their first unions at wave four their scores of heavy drinking were lowest compared to other groups. Although they did not have the lowest level of heavy drinking at wave one, they still started off with the second lowest level and therefore had a relatively small change in heavy drinking over time.

Overall, there's support for the literature that suggests being in a relationship is associated with positive effects, and multiple transitions are sometimes associated with negative effects. Results from this chapter suggest that those currently in unions sometimes have better outcomes (less depression & less heavy drinking). Young women who are currently broken up from a union do worse on some outcomes (heavier drinking). Those with multiple union breakups and multiple transitions do worse on some outcomes (greater depression). Having multiple union entrances and exits is sometimes associated with greater improvements than having fewer entrances and exits, such as a greater decline in delinquency, but those with multiple union transitions did start off relatively higher on delinquency during adolescence. Lastly, young women with zero unions are also sometimes worse off compared to others (heavier drinking, no change in depression whereas those who entered unions had a significantly greater decline in depression).

Table 17: Differences in Mean Scores of Young Women's Well-Being by Number of Union Transitions (with rotation of the reference group)

	<u>ZERO</u>	<u>ONE</u>	<u>TWO</u>	<u>THREE</u>	<u>FOUR</u>	<u>FIVE</u>	<u>SIX</u>	<u>SEVEN</u>	<u>EIGHT +</u>	(F test)	Change score
		In 1st	Exited	In 2nd	Exited	In 3rd	Exited	In 4th			Significant
		Union	1st Union	Union	2nd Union	Union	3rd Union	Union			Comparisons
											(<i>p</i> < .05)
Depression - wave 1	1.71	1.70	1.74	1.81	1.89	1.87	1.87	1.95	1.98	7.73 ***	
Depression - wave 4	1.73	1.58	1.65	1.62	1.78	1.74	1.91	1.75	1.96	15.97 ***	
Raw Change in Depression	0.01	-0.12***	-0.09*	-0.19***	-0.12*	-0.13*	0.04	-0.2**	-0.02	2.42 *	(0 > 1,3,7)
Self rated health - wave 1	3.85	3.88	3.68	3.74	3.5	3.66	3.37	3.41	3.2	9.59 ***	
Self rated health - wave 4	3.62	3.79	3.73	3.54	3.37	3.48	3.24	3.31	3.24	8.87 ***	
Raw Change in Self-Rated Health	-0.23	-0.09*	0.05	-0.19**	-0.13	-0.18	-0.13	-0.11	0.04	1.42	
Delinquency - wave 1	1.1	1.09	1.11	1.1	1.19	1.18	1.24	1.23	1.29	6.26 ***	
Delinquency - wave 4	1.01	1.01	1.02	1.01	1.03	1.04	1.04	1.04	1.07	8.63 ***	
Raw Change in Delinquency	-0.08***	-0.08***	-0.09***	-0.09***	-0.16***	-0.14***	-.20***	-0.19***	-0.22***	4.02 ***	(1,0,2,3 < 4,6,7,8)
Heavy Drinking - wave 1	1.61	1.88	1.94	2.07	1.99	2.24	2.74	2.31	2.13	6.46 ***	
Heavy Drinking - wave 4	2.02	1.92	2.23	2.1	2.31	2.22	2.67	2.45	2.27	4.18 ***	
Raw Change in Heavy Drinking	0.41***	0.04	0.29**	0.04	0.32*	-0.02	-0.07	0.14	0.14	2.42 *	(0,4,2 > 1) (0 > 1,3,5)

Table 18: Fixed Effects (F.E.) Analysis Young Women's Fixed Effects Well-being by Number of Transitions (with rotation of the reference group)											
	<u>ZERO</u>	<u>ONE</u>	<u>TWO</u>	<u>THREE</u>	<u>FOUR</u>	<u>FIVE</u>	<u>SIX</u>	<u>SEVEN</u>	<u>EIGHT +</u>	(F test)	Change score
		In 1st	Exited	In 2nd	Exited	In 3rd	Exited	In 4th			Significant
		Union	1st Union	Union	2nd Union	Union	3rd Union	Union			Comparisons
											(<i>p</i> < .05)
F.E. Change in Depression ^a	0.01	-.12***	-.09*	-.19***	-.12*	-.13*	.04	-.20**	-.02	2.45 *	(0 > 1,3,7)
F.E. Change in Self-Rated Health ^a	-.23	-.09*	.05	-.19**	-.13	-.18	-.13	-.11	.05	1.45	
F.E. Change in Delinquency ^a	-.08***	-.08***	-.09***	-.09***	-.16***	-.14***	-.20***	-.19***	-.22***	3.94 ***	(1,0,2,3 < 4,6,7,8)
F.E. Change in Heavy Drinking ^a	.41***	.04	.29**	.04	.32*	-.02	-.07	.14	.14	2.40 *	(0,4,2 > 1) (0 > 1,3,5)

Note: ^aThe coefficients for change in age (centered) in the models with F.E. Changes in Depression, Self-Rated Health, Delinquency, and Heavy Drinking are .02, .06, -.01, and -.03, respectively.

Table 19: Proposed Hypotheses Regarding the Number of Transitions, and Indication of Whether They Were Supported

Hypothesis		Supported?
<i>A. Depression and Self-Rated Health</i>		
Hypothesis #5:	Respondents who are currently broken up from a union during the last wave of data collection (i.e. late twenties/early thirties) will have experienced a significant increase in depression and decline in self-rated health over time.	no
Hypothesis #6:	Respondents who experience a high number of union breakups will experience significant increases in depression and declines in self-rated health over time.	no
Hypothesis #7:	Those who experience a high number of union breakups will experience a greater increase in depression and greater decline in self-rated health compared to those currently broken up at wave four, but have not had many breakups.	no
Hypothesis #8:	Those currently in unions during the last wave of data collection will have experienced a greater improvement in depression and self-rated health compared to those currently broken up from a union, those who have had multiple union exits, or who've never entered a union.	yes, for depression
<i>B. Heavy Drinking and Delinquency</i>		
Hypothesis #9:	Those currently broken up from a union during the last wave of data collection, and those who have never been in a union, will exhibit a significant within-group worsening in heavy drinking and delinquency between adolescence and the late twenties/early thirties.	yes
Hypothesis #10:	Those currently in unions during the last wave of data collection will have experienced a greater improvement (more favorable levels) in delinquency and heavy drinking compared to those who are currently broken up from a union, or who've never entered a union.	yes, for heavy drinking

Chapter 8

Discussion

The way families are forming has changed, with more young adults delaying marriage, delaying when they have their first child, being more likely to be living with partners in cohabitations, having marriages preceded by cohabitation, and being more likely to have non-marital births than mid-century (Bumpass, Sweet, & Cherlin, 1991; Casper & Bianchi, 2002; Cherlin, 2009; Cherlin, 2000; Furstenberg, 2010; Raley, 2001; Schoen, Landale, & Daniels, 2007; Scott, Schelar, Manlove, & Cui, 2009; Teachman, Tedrow, & Crowder, 2000). The transition to adulthood takes longer, and the kinds of pathways young people experience are all different. In addition, the number of marital and cohabiting unions experienced by adults has also increased. Young adults today are more likely to get divorced, be in subsequent marriages, and to be engaging in serial cohabitation (Bianchi & Casper, 2000; Cohen & Manning, 2009; Lichter & Qian, 2008). This study addressed the following questions: (1) what were the pathways of family formation experienced by females between adolescence and the late twenties? (2) How did different pathways towards family formation affect young women's subsequent well-being in young adulthood? And, (3) how did the number of transitions into and out of marriage and cohabitation affect young women's subsequent well-being?

Nine pathways of family formation were found: delayed starters (20%), cohabitators (13.5%), early single mothers (12.4%), married mothers with premarital cohabitation (11.7%), early married mothers (10.7%), married mothers (10.5%), single mothers (8.9%), cohabiting mothers who later marry (6.5%), and marrieds (5.6%). Pathways were significantly associated with changes in risky behaviors, such as delinquency and heavy drinking, between adolescence and the late twenties, but were not significantly associated with changes in health outcomes, such

as depression and self-rated health. Those who were more delinquent during adolescence were more likely to follow pathways involving non-marital motherhood. These non-marital mothers (single mothers, early single mothers, and cohabiting mothers who marry later) started out with the highest levels of delinquency, then by young adulthood had similar levels of delinquency as all other women and therefore exhibited the greatest declines overtime. Young women who became delayed starters or cohabitators (i.e pathways that did not involve marriage or motherhood (regardless of marriage)), experienced significant increases in heavy drinking, and those who became cohabiting moms who married later experienced a greater decline in heavy decline than all other groups.

The number of union transitions was significantly associated with changes in depression, delinquency, and heavy drinking, between adolescence and the late twenties, but was not associated with the change in self-rated health. Those who were currently in unions during their late twenties / early thirties sometimes had better outcomes (less depression & less heavy drinking), and young women who were currently broken up from a union did worse on some outcomes (heavier drinking). Young women with zero unions were also sometimes worse off compared to others (heavier drinking than those were currently in unions; no change in depression whereas those who entered unions had a significantly greater decline in depression). And lastly, young women who had fewer union breakups did better on some outcomes (less depression) than those with many union breakups, but did worse on other outcomes (less of a decline in delinquency) compared to those with many transitions.

This study went beyond past research by examining how the family formation process was experienced by those as they aged from adolescence through their late twenties and early thirties, examining how these more complete family formation experiences were associated with

well-being, and by examining how the total number of union transitions (both entrances and exits) was associated with adults' well-being. Prior research had estimated pathways (i.e. the ordering and sequencing of childbearing, cohabitation, and marital events), examined demographic & personal predictors of pathways (Amato et al., 2008; MacMillan and Copher, 2005), and examined the way pathways are associated with changes in well-being (Amato & Kane, 2011), but only for experiences that occur from adolescence through the early 20s. Many studies had examined the association between the number of adults' entrances into and exits out of marriage and cohabitation on childrens' outcomes (e.g. Amato 2000; Cavanagh & Huston, 2006; Demo & Cox, 2000; Fomby & Cherlin 2007; Osborne & McLanahan 2007), but few had looked at the total number of union transitions on well-being outcomes for the adults themselves (Demo & Fine 2010), especially those in the young adult stage of life. Also, the majority of studies on union transitions and adult well-being had only looked at the occurrence of a single transition within a given length of time, such as transitioning from marriage to divorce, never married to married, or cohabiting to exiting a cohabitation (e.g. Amato, 2000; Bierman et al., 2006; Blekesaune 2008; Brown 2000; Dush & Adkins, 2009; Meadows, McLanahan, & Brooks-Gunn, 2008; Williams et al., 2008). Examining family formation experiences, both pathways and the number of union transitions, through respondents' late twenties and early thirties is important because the transition to adulthood today is a longer, more continual process, with more teens and young people enrolling in higher education, engaging in multiple jobs and multiple romantic unions, and place greater emphasis on personal growth today than in the past (Arnett, 2004; Settersten, Furstenberg, Rumbaut, 2005).

Comparing the previously identified pathways (that only followed women through their early twenties) to the pathways identified in the current study (that followed women through

their late twenties), one can see how the longer pathways offer a more complete account of family formation experienced during young adulthood. Seven common groups of family formation have been found across previously identified pathways in the literature – delayed starters, cohabitators, cohabiting moms, marrieds, married moms, marrieds with premarital cohabitation, and single moms (Amato et al., 2008; MacMillan & Copher, 2005). By following women through age 29, however, it's possible to distinguish between “early” single mothers and women who become single mothers relatively later. This is an important distinction because, from a life course perspective, the timing of when events occur may be associated with future personal outcomes (Elder 2003, Elder 1998). For example, some differences were seen between the two groups on factors like delinquency, where early single mothers started off with greater delinquency during adolescence but then had the greatest decline by adulthood.

The distinction was also made between “early” married mothers and women who became married mothers relatively later, and the early married mothers were more likely to have gotten divorced within the first three years of marriage than the married mothers. By following women into their late twenties and comparing this to previously identified pathways, what could also be seen was that many cohabiting mothers from younger pathways married somewhat soon after their first birth (with further analyses having revealed that roughly half of these women married their cohabiting partner). Cohabiting mothers who married later had a significantly greater decline in heavy drinking between adolescence and the late twenties than young women from all other pathways, including both cohabitators and married mothers. Some of the pathway titles stayed similar between the previous studies and the current study – delayed starters, cohabitators, and marrieds - although it's possible for someone to have been in any of the three categories during their young twenties, and then have switched to a different category by her late twenties.

From a social stress perspective, it was hypothesized that pathways involving marriage would exhibit a significantly greater decline in depression and a smaller decline in self-rated health than pathways that did not involve marriage, because marriage has been associated with an increase in resources (e.g. social, economic) which in turn are associated with fewer stressors and greater overall health. It was also hypothesized that respondents who followed pathways involving non-marital motherhood would experience a smaller improvement in depression and greater decline in self-rated health compared to those who did not experience non-marital motherhood.

Pathways were not significantly associated with changes in depression and self-rated health between adolescence and young adulthood. These results suggest that differences in various health outcomes sometimes found in previous cross-sectional studies between women of differing marital statuses, single parenthood statuses, etc. may be due to selection factors. In this study, women who started out as more depressed during adolescence were more likely to then experience cohabiting motherhood, single motherhood, early single motherhood, and interestingly, early married motherhood. During young adulthood, virtually all women had declined in their levels of depression but those in these four groups still remained at higher levels relative to those from other groups. Women who started off with less depression, such as those who became married mothers with premarital cohabitation, ended with less depression relative to others. Similarly for self-rated health, those from pathways who started with more favorable ratings of their health during adolescence (the married mothers, married mothers with premarital cohabitation, and delayed starters) continued to rate their health more favorably during young adulthood than those from other pathways.

Drawing from crime literature that has focused on disadvantaged youth, it was

hypothesized that respondents in pathways with non-marital childbearing would experience significantly greater declines in delinquency and heavy drinking than young women following pathways that did not involve non-marital motherhood. It was also hypothesized based on crime and marriage literature that young women who followed pathways with marriage would experience significantly greater declines in delinquency and heavy drinking compared to those in pathways that do not involve marriage (excluding those in pathways with non-marital childbearing, who would have the greatest declines). All groups of non-marital mothers did exhibit greater declines in delinquency than other groups, and cohabiting mothers who married later exhibited a greater decline in heavy drinking than all other women. Theoretically, this association was hypothesized because, for disadvantaged urban women, becoming a mother has been suggested as being a significant turning point for their transition to adulthood, where having a child draws them towards adult activities and discourages association with those taking part in delinquent and drug activities (Edin & Kefalas, 2005). Young women who started off with greater levels of delinquency during adolescence were in fact more likely to become non-marital mothers. Non-marital mothers did experience the greatest decline in delinquency, but started off with the highest levels, and by young adulthood, delinquency scores were roughly similar across all groups. A combination of aging plus the experience of motherhood likely contributed to non-marital mothers' relatively large decrease in delinquency. Interestingly, it was the delayed starters and cohabitators who exhibited the greatest increases in heavy drinking overtime. These results suggest that marriage and having children bring stability to one's life, decreasing the amount of engagement in risky behaviors.

From a social stress perspective it was also hypothesized that those who were currently in unions during their late twenties / early thirties would have experienced a greater improvement in

depression and self-rated health compared to those currently broken up from a union, those who had multiple union exits, and those who had never been in a union. These associations were found when looking at the change in depression. Entering a union, in previous studies, has been associated with greater social attachment, economic resources, and more emotional support (Bierman, Fazio, & Milkie, 2006; Coombs, 1991; Dush & Amato, 2005; Mastekaasa, 2006; Ross, 1995; Soons & Liefbroer, 2008; Williams, Sassler, & Nicholson, 2008; Waite, 1995), which would be linked to less stress and could help explain here the greater decline in depression for those currently in unions during young adulthood.

Those who were currently in unions during young adulthood were also hypothesized as having a greater improvement in delinquency and heavy drinking compared to those who were currently broken up from a union or who had never been in a union, because, from marriage and crime literature, entering a committed union like marriage builds a system of support and mutual obligation between partners which brings with it a reduction in time spent on leisure activities with those outside the household (Osgood & Lee, 1993; Sampson & Laub, 1993). This trend was found for the number of union transitions and heavy drinking, with those who had never been in a union and those who were currently broken up from a union being the only groups to exhibit significant increases in heavy drinking over time.

To my knowledge, this study was the first to test for the best representation of adult respondents' number of union transitions when examining its association with adult well-being. This study found that the number of union transitions was best represented as a series of dummies, which incorporated both the number of entrances and number of exits, plus respondents' current relationship status during young adulthood. Interestingly, those who had a higher number of union breakups were not worse off on health outcomes compared to those who

had a fewer number of union breakups, which was initially thought to be the case because with multiple break ups comes multiple periods of stress-related adjustment. Furthermore, multiple entrances and exits was associated with a greater significant decline in delinquency than fewer entrances and exits, although those with a higher number of transitions did start off with greater delinquency during adolescence. These results support Cherlin's hypothesis that although multiple union transitions may be problematic for the children involved, they may not necessarily be linked to negative well-being for adults (Cherlin, 2009). Previous empirical studies found multiple transitions to be harmful for adults' physical and mental health, but the current study looked at change in well-being over time, having taken into account where respondents started off on health and risky behavior.

It's also important to note that pathways and the number of transitions are connected. For example, both delayed starters and those with zero transitions had the greatest increase in heavy drinking over time, and exhibited greater increases compared to many other groups of women (although it's unclear which came first - did young women begin to drink heavily because they hadn't been in a marital or cohabiting union, or were they less likely to be married or cohabiting because they were heavy drinkers?)

Incorporating where respondents started off on well-being indicators was a strength of this study, and allowed for the use of a fixed effects analysis. By using fixed effects regression models all time-invariant factors were naturally controlled for, such as inherent personality traits, home environment during childhood, race/ethnicity, etc. Another methodological strength of this study is that it used a latent class analysis to create the pathways. This procedure allowed me to identify the most common, underlying patterns within the data based on respondents' answers to questions of interest (i.e. questions related to dates of marriage, cohabitation, and first birth). It

allowed me to pull out the patterns of family formation that actually existed within this nationally representative sample, and determine how many respondents fell into each pathway category.

This study does have some limitations. For example, whether the union and parenthood transitions were occurring within a short time period or over a longer length of time was not taken into account. Experiencing rapid transitions, with each occurring one right after the other, may bring added stress for an individual, in addition to the actual experience of the transitions themselves. Future research could explore this issue of clustered transitions by either constructing a “time” variable that incorporates the number of days (or weeks) between family formation experiences, or by using a dummy variable that incorporates both pathways and a grouping of respondents based on how quickly their family formation experiences occur.

Also, moderating factors may influence the relationship between family formation and well-being, and between number of transitions and well-being. Future studies could test for potential interactions in all analyses. Race, social support, and negative coping skills may act as moderators in the link between type of family formation and well-being. Parenthood status, along with race, social support, and coping skills may moderate the link particularly between number of transitions and well-being. Having social support and close relationships with others, for instance, may make the impact of life events less stressful and harmful (George, 1989; George, 1993) and positive coping skills may allow one to better handle difficult life events and transitions than negative coping skills (Demo & Fine, 2010; George, 1993). For example, greater support from family and friends, as well as strong sense of self-efficacy can make the potentially negative impacts of marital dissolution less extreme (Amato, 2000).

Few studies have tested race as a moderator in the link between early family formation

and subsequent well-being, and those that do report inconsistent findings. For example, some research suggests that divorce may negatively affect whites more than blacks, while other research suggests no differences in depression rates or happiness following a divorce between the two groups (Amato 2000). Given that the trends towards family formation tend to be different between racial/ethnic groups, with black women being more likely to marry later and to experience non-marital first births than white women, and Mexican-American women being more likely to experience early marriage than both white and black women (Landale, Schoen, & Daniels, 2010; MacMillan & Copher, 2005; Schoen, Landale, Daniels, 2009), testing race as a moderator would be useful in further research.

Parenthood status may act as a moderator in the link between the number of union transitions and subsequent well-being. Women who are not mothers upon entering a marriage are more likely to obtain physical health benefits from marriage than women who were already mothers upon entering a marriage (Williams et al., 2008). Entering and exiting a marriage may affect women who were single mothers upon entering their marriage more negatively than women who were not mothers upon entering their marriage. For single mothers, entering and exiting a marriage may be worse for mental and physical health outcomes than having remained single all along (Williams et al., 2008). For cohabiting women, becoming a parent may be associated with a decrease in self-esteem and self-efficacy, and an increase in depression compared to cohabiters who are not mothers, and compared to married women who are mothers (Brown, 2000; Woo & Raley, 2005).

And lastly, future research should examine the long-term effects of being in pathways. From a life course perspective, experiences regarding childbearing, cohabitation, marriage, and the number of union transitions will impact personal health, risky behaviors, and other outcomes

in mid-life. It would be particularly useful to identify which pathways are most common when following women through their thirties and into their forties, and examine how these even more complete pathways of family formation are associated with well-being outcomes even further on into adulthood. We have some ideas on how specific events may be associated with health and risky behavior outcomes in one's middle aged years, such as marriage, or divorce, but more information is needed on how these pathways, which take into account multiple dimensions of family formation, are associated with later well-being.

This study filled a gap in the literature by identifying family formation experiences (both pathways and the number of union transition) that occur through young women's late twenties and early thirties, and by examining the associations between these experiences and young adult well-being. Previous work has only explored this issue for women through age twenty-four, and given that the process of becoming an established adult today is not always finished by the early twenties, this study offered a more complete account of family formation during young adulthood. Results from this study can be used to inform future studies that address policies promoting young women's well-being. Overall conclusions are that pathways are more nuanced than previous studies have found, and that family formation experiences are important for health and risky behavior outcomes.

Notes

1. Due to the high skewness of delinquency and heavy drinking, additional versions of these variables were created: (a) the log of delinquency, (b) the log of heavy drinking, (c) a dichotomous indicator where 1=any delinquency and 0=no delinquency. Analyses were performed with the different coding schemes, and results did not substantively change when using the additional versions.
2. Analyses are performed both with and without survey weights. Given the design effects of the Add Health data, analyses should be performed with survey weights. Fixed effects analyses though are often performed without survey weights. The weighted results are reported in the text and tables, with any substantive differences between the models discussed in footnotes.
3. When performing fixed effects analyses with the control for change in respondents' years of education (using survey weights), pathways are now significantly associated with change in depression, with most groups experiencing a significantly greater decline in depression than delayed starters. But, pathways are not significantly associated with change in depression when survey weights are not used, both for models with change in years of education and without the change in years of education. Overall, results do not substantively change much when performing analyses with the control for change in years of education, or when performing analyses without survey weights.
4. When performing fixed effects analyses with the control for change in respondents' years of education (using survey weights), results were not substantively different from when change in respondents' age was the only control. When comparing analyses without the survey weights to those with the survey weights, for models controlling for change in age only, all results stayed substantively the same except for the association between number of union transitions and

change in depression, for which the association was no longer significant when survey weights were not used.

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Condensed *Curriculum Vitae*

EDUCATION

- Ph.D. 2012 Pennsylvania State University
Dual Degree in Sociology & Demography
- M.A. 2009 Pennsylvania State University
Dual Degree in Sociology & Demography
- B.A. 2006 State University of New York (SUNY) Stony Brook
Sociology (Concentration in Psychology), Magna Cum Laude

RESEARCH AND TEACHING INTERESTS

Family, Child & Adolescent Well-being, Health, Transition to Adulthood, Methods

GRANTS AND AWARDS

-
- 2007-present Bunton-Waller Graduate Award - The Pennsylvania State University
- 2009-2011 The Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) - Family Demography Training Grant Predoctoral Fellow (Research, Travel, Tuition, Stipend)

PUBLICATIONS & MANUSCRIPTS IN PROGRESS

Pearce-Morris, J. & King, V. (2012). "The well-being of children living with interethnic parents: Are they at a disadvantage?" *Journal of Family Issues*, 33, 898-919.

King, V., Ledwell, M., & Pearce-Morris, J. "The influence of religion on ties between adult children and their parents." Under review at *Journal of Gerontology*.

Pearce-Morris, J. "Romantic relationships - How does the number of union transitions affect young women's health outcomes?"

Pearce-Morris, J. "Family formation pathways and women's early adult well-being over time."

CONFERENCE PRESENTATIONS

- 2012 Jennifer Pearce-Morris. "Family formation pathways and their association with women's early adult well-being." PAA.
- 2011 Valarie King, Maggie Ledwell & Jennifer Pearce-Morris. "The influence of religion on ties between adult children and their parents." PAA.
- 2010 Jennifer Pearce-Morris & Valarie King "Child Well-being in Interethnic Families." PAA.
- 2010 Jennifer Pearce-Morris & Valarie King "Interethnic parental status and children's outcomes" Center for Family Research in Diverse Contexts - Research Day. Penn State University.
- 2009 Rebekah Young & Jennifer Pearce-Morris "Missing Categorical Data for Family Sociological Research." ASA.