Premaritally Pregnant Couples' Commitment-Trajectory Clusters and Relationship
Progression in a Mostly Hispanic Sample

by

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A Thesis

In

Human Development and Family Sciences

Submitted to the Graduate Faculty
of Texas Tech University in
Partial Fulfillment of
the Requirements for
the Degree of

MASTER OF SCIENCE

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December, 2021

ACKNOWLEDGEMENTS

First, I want to express my sincere gratitude to my advisor Dr. Sylvia Niehuis for her continuous support and guidance throughout my master's program and research. Her expertise, patience, mentorship, and overwhelming support are continually shaping me to become a better scholar and researcher. This project would not have been possible without her continued support and guidance.

I would also like to thank the rest of my committee: Dr. Alan Reifman, Dr. Dana Weiser, and Dr. Jacki Fitzpatrick for their insightful comments and guidance, encouragement, and statistical expertise.

Lastly, I would like to thank my family and friends for their support and encouragement. I want to specifically thank my husband, Hunter Grossmann, for his constant support and for always being willing to read my very rough drafts.

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ABSTRACT

Premarital pregnancies have been associated with poor relationship outcomes for the couple. However, there is more to learn about specific relationship behaviors and perceptions in premaritally pregnant couples that might be associated with better functioning. The present study uses a sample of premaritally pregnant newlyweds ($N = 50$ couples) to investigate how courtship milestones (e.g., timing until first feeling in love with and first having sex with one's partner) and courtship accelerations and downturns are associated with degree of similarity in partners' trajectories of commitment to marriage. An initial iterative/K-means cluster analysis revealed three groups of couples in terms of partners' similarity and differences in commitment trajectories. In one cluster, husbands' and wives' independent recollections of their commitment trajectories from before to after pregnancy discovery matched in both trend and absolute levels. In another cluster, husbands and wives both reported increasing commitment to marriage, but wives' absolute levels were higher than their husbands', and in a third cluster, spouses both reported increasing commitment to marriage, but husbands' absolute levels were higher than their wives'. Based on prior literature suggesting that partners more in tune with each other's beliefs and recollections generally fare better, the present hypotheses predicted that couples in which both partners had similar commitment trajectories would experience faster courtships than those in which partners were discrepant in absolute commitment levels and/or commitment trends. Kruskal-Wallis tests were used to compare clusters on continuous premarital measures, and chi-square tests were used to compare the clusters on categorical variables. Results showed that couples with similar commitment trajectories first felt love sooner (husbands) and first felt certain of marriage

(husbands and wives) than those with dissimilar commitment trajectories. Overall, results indicate that clusters of commitment trajectories are associated with timing of courtship milestones in the context of a premarital pregnancy.

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CHAPTER I

INTRODUCTION

Premarital pregnancies are the result of an unwed couple engaging in intercourse without using contraception at all, improperly using contraception, or using faulty contraception, resulting in the conception of a child (Willis & Niehuis, in press). These pregnancies present a unique phenomenon for researchers to explore, as they can create new dynamics and challenges for the expecting unwed couple. The present study investigates relationship events and processes (commitment to marry, first feeling in love, etc.) in couples who experienced a pregnancy while dating and ultimately married. Most research regarding married couples with premarital pregnancies focuses on the negative outcomes these couples face, such as relationship instability and negative social and economic consequences (Coombs & Freedman, 1970; Martin et al., 2019; Niehuis et al., 2006). Most existing research has portrayed premaritally pregnant couples as a homogeneous population and not looked for variation in how different subgroups of premaritally pregnant couples respond to their situation and either flourish or flounder in their relationship. Based on more current statistics and research, there appears to be greater societal tolerance for premarital pregnancies (Jones, 2015), as the society at large, as well as researchers in this area, are expanding their understanding of what families can look like. Also, social-service agencies are providing more resources to families at high risk of poor outcomes and poverty (Aquillo, 1996; Geronimus, 2003; Wolfe & Blair, 2019). Whereas older literature showed that couples who experienced premarital pregnancies were less likely to marry after the pregnancy and more likely to cohabit and co-parent (Akerlof et al., 1996; Manning, 1993), more recent research has shown equal

proportions of post-conception marriages and cohabiting relationships (Lichter et al., 1016). Among the youngest respondents studied by Lichter and colleagues (< 20 years old), post-conception cohabitation far exceeded post-conception marriage; in the 20-24 group, marriage and cohabitation were about equally common, whereas in all older groups, post-conception marriage was more common than post-conception cohabitation.

Although across all age groups marriage post-pregnancy has been no more likely than cohabitation in recent decades (Lichter et al., 2016), there are certain cultural factors that may push couples towards marriage. These include characteristics such as race, ethnicity, and religious views. According to the American Psychological Association (APA Style, 2019):

> *Race refers to physical differences that groups and cultures consider socially significant. For example, people might identify their race as Aboriginal, African American or Black, Asian, European American or White, Native American, Native Hawaiian or Pacific Islander, Māori, or some other race. Ethnicity refers to shared cultural characteristics such as language, ancestry, practices, and beliefs.*

The present thesis involves analyses from a predominantly Hispanic/Latinx ethnic sample, a group exhibiting elevated rates of nonmarital childbearing (Lavner et al., 2020; Martin et al., 2019). (APA [2019] suggests the use of Hispanic, which some authors use to refer to linguistic heritage, or Latinx, which represents the geographic region of Latin America. The present study, therefore, uses the combined term Hispanic/Latinx, Hispanic for short.) Religiosity has been defined in terms of many features such as ideology,

belief/creed, devotion, and involvement (Holdcroft, 2006); because the present study was not focused on a full multidimensional examination of religiosity, it parsimoniously assessed self-rated strength of religious beliefs and activity. Of great relevance, Hispanic American culture tends to value religious views and traditional gender and family roles; as a result, Hispanic American couples are more likely to marry after a premarital pregnancy (Hartnett & Paraddo, 2012; Lichter et al., 2014; Lichter et al., 2016). Adding to the relevance and timeliness of studying Hispanic couples, recently released figures from the 2020 U.S. Census show the Hispanic population in Texas (where the present study was conducted) to have grown by roughly 2 million people from 2010 to 2020, so that Whites and Hispanics each now comprise around 39% of the state's population (Ura et al., 2021).

Theories of couple interaction are also crucial for understanding the potential impact of premarital pregnancies on premarital relationships. For example, the interpersonal process model argues that causal forces and unique interactions create unique pathways of commitment. Several studies have defined commitment to marriage as the partners' perceived likelihood of getting married to each other (e.g., Surra & Hughes, 1997). Couples experiencing a premarital pregnancy may have a shared commitment, but the partners may be committed to different degrees and thus differ in their perceptions of how their marriage likelihood has changed (Cate et al., 2002). Partners' potential similarities and differences in commitment to marriage in the context of a premarital pregnancy can be investigated via commitment trajectories. Past research has explored how commitment changes throughout a dating or premarital relationship. These studies have examined commitment trajectories throughout couples' dating

relationships up until they break up or the study ended (Ogolsky et al., 2016) or until the couple's wedding date (e.g., Wilson & Huston, 2013). The studies by Ogolsky et al. (2016) and Surra and Hughes (1997) were prospective, whereas Wilson and Huston (2013) had married couples report retrospectively on commitment during their courtship. (The term courtship, though in some readers' minds perhaps somewhat antiquated, is used here to describe the relationship of couples which ultimately resulted in marriage. Thus, courtships are not to be equated with dating relationships, in which partners may never actually get married.) Studies have examined how quickly commitment changes, what factors alter commitment trajectories, and relationship outcomes. However, with one exception (Surra et al., 1987), this research has not examined how relationship events, such as a premarital pregnancy, could affect commitment trajectories.

The existing research surrounding premarital pregnancies tends to focus on poorer relationship and child outcomes, but devotes less attention to gender similarities or differences, the effects of culture, and overall relationship development that could be influencing the couple during their premarital pregnancy. Research covering more diverse premaritally pregnant married couples is needed to provide a more accurate depiction of the intricacies of such relationships and potential catalysts to marriage after the discovery of a pregnancy. Of course, some unwed couples who become pregnant ultimately do not marry. The present research focuses on those who do. To address outstanding issues regarding premarital pregnancy and perceived marital functioning, the current study examined how commitment trajectories and timing of relationship milestones (e.g., number of months from a couple's first date until each partner first felt in love with the other) are associated with premaritally pregnant couples' trajectories of

commitment to marriage. Different "patterns" of commitment to marriage refer to the extent to which the two partners' separate estimates of how likely they are to marry do or do not coincide during courtship (detailed examples of similarities and differences in partners' commitment trajectories appear later on). The goals of the present study, conducted entirely on married couples with a premarital pregnancy, are to examine:

(1) How partners with similar commitment trajectories to each other in the context of a pregnancy differ from couples whose partners have dissimilar commitment trajectories, with regard to demographic variables such as race and religiosity;

(2) How quickly couples with similar commitment trajectories reach relationship milestones such as first feeling in love with the partner; shift in their minds from a 25% chance of marriage to a 75% chance (a commonly used measure of acceleration in commitment to marriage; Wilson & Huston, 2013); report downturns (or declines) in their perceived likelihood of marriage; do or not cohabit (and for what length of time); and advance through their relationship from dating onset to their wedding date.

CHAPTER II

LITERATURE REVIEW

Premarital Pregnancy

Most research and statistics surrounding the frequency of premarital pregnancy tend to report unplanned pregnancies, specifically teen pregnancies. Because the present thesis focuses on premarital pregnancies in adults, literature pertaining to adults will be emphasized, where possible. Over the past few decades, the U.S. and other countries such as the United Kingdom have seen overall declines in unplanned premarital pregnancies, due to growing access to contraception and certain forms of comprehensive sex education (Keller & Lindberg, 2020). Despite this decline, the birth rate of unmarried women between the ages of 15-44 in 2018 was 40.1 births per 1,000. Non-Hispanic white women made up 28.2% of the U.S population of women who experienced a premarital pregnancy and Hispanic women made up 51.8% of this category (Martin et al., 2019).

Although most research assumes that premarital pregnancies are unplanned or unwanted, this might not always be the case. With the rise of cohabitating couples (romantic but unwed partners living together), there has been a rise in premarital pregnancies (planned or unplanned) among older and cohabitating couples with 13.2% of women between ages 15-49 years old residing with a male partner and 11.9% of men in this age group living with a female partner (Martin et al., 2019). Between 2006 and 2010, 56% of all premarital pregnancies in the U.S. occurred in women cohabitating with their romantic partner. Among those who became pregnant during cohabitation, 20% were pregnant within the first year of living together and one in four of these women were 20 years old or younger (Copen et al., 2013). With marriage equality across the U.S. not

arriving until the 2015 Supreme Court case of Obergefell v. Hodges, data on same-sex couples' cohabitation as a prelude to marriage do not yet appear to be widely available.

Moderately educated, working-class couples are more likely to experience a premarital pregnancy than are college-educated, middle-class couples (Sassler & Miller, 2014). This difference stems from middle-class cohabiting couples more consistently using effective contraceptive methods than working-class couples (Sassler & Miller, 2014). Working-class couples tend to be more ambivalent towards using contraception and use it less frequently and may also lack access to effective contraceptives. Relatedly, couples with premarital births are more likely to marry at a young age, have lower household income, and have lower levels of education (Lavner et al., 2020).

Premarital Pregnancy and Gender

In the context of premarital pregnancy, men and women may experience different concerns. Both men and women are concerned with their ability to provide adequately for the child. However, this concern is heightened for women because single mothers are more likely to live in poverty than are married mothers, who more readily receive support from their child's father (Futris & Schoppe-Sullivan, 2007; Livingston, 2019). As noted by Livingston (2019), past research has found that married couples are typically better off financially compared to unmarried parents. However, there are also financial differences among unmarried parents as well. Single mothers are more likely to live in poverty than are cohabiting parents. Solo mothers, without the support of fathers, are more than twice as likely to live below the poverty line, whereas cohabiting parents are less at risk for poverty. The article also notes that although single and cohabiting parents are equally as likely to be employed, the dual income provided by cohabiting partners

greatly reduces their likelihood of living in poverty (Livingston, 2019). Beyond the added financial support provided by a dual-income household, fathers were more likely to engage in child caregiving if they were romantically involved with the mother (Futris & Schoppe-Sullivan, 2007). Futris and Schoppe-Sullivan's results also showed that even if parents were not romantically involved, fathers were more likely to engage in caregiving if the mothers perceived their parenting alliance as strong. The authors suggest that a positive coparenting relationship and/or a romantic relationship may serve as a reward for the fathers to engage in child caregiving activities (Futris & Schoppe-Sullivan, 2007). Consequently, women with relatively few other means of economic or caregiving support may show increased marital commitment once they discover a premarital pregnancy, to protect her and her child's future.

Most research on gender similarities and differences in mentally processing a premarital pregnancy has been conducted outside of the U.S. The research also tends to focus specifically on adolescents who experience a premarital pregnancy and what their sexual attitudes and understanding of intercourse are before the pregnancy. A study in Nicaragua found that young men between the ages of 15-24 were more likely to be encouraged to engage in premarital sex, whereas young women of the same age were discouraged from doing so (Rani et al., 2003). As a result, men socially approved of premarital sex at a greater rate than did women. Other researchers have found that men are more likely than are women to have more favorable attitudes towards premarital sex but have also found that there are no gender differences in the rate of premarital sex or the frequency of contraceptive use (Wang et al., 2007; Yalçin et al., 2012).

Women are more likely than men to raise their children as single parents. As of 2017, 53% of unmarried mothers raise their child on their own, whereas only 12% of fathers do so (Livingston, 2019). Single mothers are more likely to live in poverty compared to cohabitating and co-parenting couples because they receive less financial support and as a result must rely on other social support systems, such as their families, social services, and government funding, to help provide for their family (Edin, 2000; Waller, 2008). A mother's perception of the father as well as romantic involvement, trust between the mother and father, finances, time, physical barriers, and a weak parenting alliance can all determine his involvement in the childrearing (Futris & Schoppe-Sullivan, 2007; Sheftall et al., 2010). In general, the mother's personal history and perceptions of the father have a large impact on the father's involvement (Sheftall et al., 2010). Research from two decades ago reported that fathers who are more involved in the childrearing process and assist the mother in parenting after a premarital pregnancy may be older, hold more traditional values, and feel that it is their duty to provide for the mother and child (Akerlof et al., 1996; Delgado, 2000). More recent research indicates that childrearing and coparenting may not be associated with an increased likelihood toward marriage for fathers. After the birth of the child, fathers are more likely to want to cohabit with the mother of their child but are less likely to be committed to marrying their partner compared to childless men (Parker et al., 2020). The research on parents' relationships and gender centers on single mothers and adolescent parents, specifically samples of women between the ages of 14 to 29 (Delgado, 2000) and convenience samples of adolescent mothers (Futris & Schoppe-Sullivan, 2007; Rani et al., 2003; Sheftall et al., 2010). Nor does the research include older couples who marry after a

premarital pregnancy (Livingston, 2019; Edin, 2000: Waller, 2008). Hence, there is great potential to expand the scope of this research.

The present study expands on the literature by presenting results for husbands' and wives' reported premarital and marital processes and markers of functioning in the context of premarital pregnancy. Gender may play a pertinent role in associations between commitment to marry and relationship progression; hence, it is important to examine these associations separately in men and women. Relationships driven by female partners' greater commitment to marriage may result in different relationship outcomes than those driven by male partners' greater commitment.

Various additional phenomena could differentially affect men and women in the context of sexuality, pregnancy, and early marriage with a child in the home, increasing tension between heterosexual spouses. One such phenomenon involves the asymmetrical responsibilities women and men face when becoming parents. Riina and Feinberg (2012) note that, "According to social construction of gender theory, couples maintain a gendered division of household labor to define and establish family roles .... The resulting overall organization of family labor does not, however, appear to be beneficial for women" (p. 836). In addition, O'Reilly Treter et al. (2021) identified changes in relationship functioning, some differing by gender, in married and cohabiting couples after the birth of a baby. On dedication-based commitment toward the relationship (i.e., intrinsically wanting to be with one's partner), only in married women (not in cohabiting women or in men with either relationship status) did commitment reverse from a rise leading into the birth to a fall after the birth. Some might expect the notion of sexual double-standards – men being judged differently (and generally more favorably) than

women for the same sexual behaviors – to impact relationships. However, evidence is surprisingly weak for such double-standards, which may stem from insufficient theoretical grounding of this research (Zaikman & Marks, 2017).

Premarital Pregnancy, Hispanic Ethnicity, and Religiosity

Couples from different cultural backgrounds may view a premarital pregnancy differently. Partners who hold more traditional and religious values may want to marry to "legitimize" the birth of their child and provide a more stable family structure and life for their child (Adamczyk & Felson, 2008; Akerlof et al., 1996; Delgado, 2000). This desire and pressure to legitimize their child may increase partners' marital commitment to each other.

Some cultural differences involve Hispanic, and more specifically Mexican American, couples. Mexican Americans constitute most of the U.S. Hispanic population (Statista, 2021), particularly in the southwestern U.S., where the present study was conducted. Hence, Mexican American couples are discussed when they specifically were studied; otherwise, studies of the broader Hispanic population are discussed. Hispanic couples, who on the whole tend to hold religious and traditional views regarding marriage (Orengo-Aguayo, 2015; Schammann, 1999), are more likely to marry and show a stronger desire for marriage after a premarital pregnancy than other racial-ethnic groups. Hispanics' strong belief in familism and social and emotional support received from both family and their partner (Biggs et al., 2010; Contreras et al., 1996; Delgado, 2000; Huston & Melz, 2004; Orengo-Aguayo, 2015) also drive a desire to marry. Because family is the core value of most Mexican-American couples and intact, traditional family units are highly valued, marriage rather than cohabitation is a likely method of

legitimization for their child and their newly established family (Contreras et al., 1996).

In contrast to previous research findings, more recent research has shown that

premaritally pregnant Hispanic women, who are not cohabitating with their partner, are

more likely to marry their partner in comparison to other racial-ethnic groups. However,

Hispanic women who are already cohabitating at the time of the pregnancy are less likely

to marry their partner (Lichter et al., 2014). These findings may be due to Hispanic

couples being more likely to view cohabitation as an appropriate setting for family

formation; however, this varies depending on whether the couple is foreign-born or

native-born (Guzman et al., 2010).

Premarital Pregnancy, Courtship, and Cohabitation

In the early 1950s and 1960s, most premarital pregnancies led to marriage

because children born as a result of these pregnancies were often viewed as

"illegitimate." To legitimize the birth of their child, the mother and father were expected

to marry (Delgado, 2000). Broad social changes in views on gender roles and the

expansion on the meaning of family have led to a decline in couples seeking to

"legitimize" their child through marriage (Akerlof et al., 1996; Lundberg & Pollak, 2014;

Parnell et al., 1994). Between 1965 and 1989, out-of-wedlock births increased by three-

fourths among White couples and there was a three-fifths increase for Black couples.

However, marriage following childbirth only increased by a quarter for White couples

and two-fifths for Black couples. Recent data indicate that 57% of Black women and

20% of White women enter their first marriages with a premarital birth (Hayford et al.,

2014).

This decline in marriage may stem from a reduction in the United States' social stigma around premarital pregnancies (Jones, 2015) and some government policies that increase lower-income women's monetary resources and job opportunities (Marr, 2015). According to past research, mothers who have a premarital pregnancy are likely to raise their child in a single-parent home and are more likely to receive welfare assistance but may be at a higher risk of experiencing poverty (Akerlof et al., 1996; Waller, 2008).

Cohabitation may also be a factor in the decision of whether to marry after a premarital pregnancy, as women are increasingly choosing cohabitation rather than marriage. Instead of marriage, many couples who were not already cohabitating before the pregnancy see cohabitation as a way to legitimize the birth of their child and it is often seen as a transitional stage before marriage. Between the 1970s and 1980s, the number of women who cohabitated when their first child was conceived doubled. In the 1970s, 44% of these women married before the birth of a child from the premarital pregnancy, whereas in the 1980s, only 31% married before the birth (Manning, 1993). Today, more women are likely to choose cohabitation rather than marriage. One study reported that between 2006-2013, 29.6% of women with a premarital pregnancy were cohabitating with their partner either before or after the birth of their child. Studies have also found that couples having one or more children before marriage were more likely to remain unmarried or wait longer to marry than cohabitating couples with no children (Lamidi et al. 2019; Lavner et al., 2020).

The number of studies that have examined the association between premarital pregnancies and marital quality and stability has fluctuated over the past half-century. Although marital quality (e.g., satisfaction) is not part of the present empirical

investigation, findings related to relationship quality in the context of pre- or nonmarital pregnancy or in diverse racial-ethnic groups are discussed for background context. Niehuis and colleagues (2006), in a narrative review of 11 studies (eight of which were published in the 1970s and '80s), concluded that, "Premarital conception and, even more strongly, premarital birth predict subsequent marital instability" (p. 27). Jackson (2009) conducted a meta-analysis on the small number of available studies, using an eligibility cut-off that couples in a study had to have been married after 1969 for the study to be included. He found a nonsignificant average correlation of $r = -.07$ between premarital pregnancy and later marital quality (based on three studies) and a significant average correlation of $r = -.09$ between premarital pregnancy and marital instability (based on four studies). Jackson noted that "One of the more counterintuitive findings was that premarital pregnancy decreases the risk for marital dissolution and increases the risk for marital distress… couples who marry for stability appear more likely to stay in a marriage of lower quality for the assurance of a stable home life for themselves and their child" (pp. 36-37). This meta-analysis did not investigate the distinction between premarital and marital (post-wedding) births of children conceived premaritally. A more recent study compared the marital outcomes for couples with a premarital birth and those without one (Lavner et al., 2020). Results showed that couples with a premarital birth were more likely to start their marriage with lower levels of self-reported satisfaction, positivity, and effectiveness, and higher levels of negativity. Couples with a premarital birth were also much more likely to divorce within 4.5 years of their wedding date compared to couples without a premarital birth (Lavner et al., 2020). However, this study

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explored a limited number of marital outcome variables and did not explore a wider scope of variables and events that contribute to the overall romantic relationship.

For several reasons – the small number of studies, small effects, and relative lack of ethnic diversity in many samples – the accumulated evidence on the impact of premarital pregnancy on relationship progression and outcomes may be considered inconclusive, but with the suggestion that premarital pregnancies overall are at least somewhat harmful to later relationship quality.

One of the underpinnings of couples' decision to marry – and possibly their later marital outcomes – is their commitment over the course of their premarital relationship. The following section, therefore, reviews existing theory on the development of commitment.

Transition to Parenthood

The transition to parenthood is not a single event; rather it is a process that typically begins with pregnancy and ends some months after the birth of the child (Adamsons, 2013). However, no definitive beginning or end to this transition can be established. Rather, the length and timing of the transition towards parenthood are influenced by context and couple-specific factors (Adamsons, 2013). Previous literature suggests that the transition to parenthood has significant effects on parents' romantic relationship functioning. Multiple studies have found that couples experience declines in relationship satisfaction, closeness with their partner, and sexual satisfaction, while also experiencing increases in relationship dissolution and conflict after the birth of their child (Adamsons, 2013; Mitnick et al., 2009; O'Reilly Treter et al., 2021; Rosen et al., 2017; Rosen et al., 2020). Meta-analyses of the association between parenthood (in general, not

necessarily via *premarital* pregnancy) and marital satisfaction (Mitnick et al., 2009, based on 41 studies; Twenge et al., 2003, based on 90 studies) have found small but significant effect-sizes around $r = -.05$ to $-.15$ (negative signs signify parents had lower satisfaction than their zero-children counterparts). Both of these meta-analyses included two types of studies: within-couple (marital satisfaction before vs. after birth) and between-couple (those who did and did not have a child). Whereas Twenge et al. pooled the within- and between-couple studies in obtaining an average effect size, Mitnick et al. provided average effect sizes for the two research designs separately. Mitnick et al. reported an effect size of $r = -.11$ in the within (pre-post) comparison. In the between (parent vs. non-parent) comparison both groups showed similar declines in marital satisfaction over time; this finding suggests that the mere passage of time since the wedding day is also associated with reduced marital satisfaction and the decline cannot be attributed solely to becoming a parent. Twenge et al. found a stronger effect-size ($r = -.19$) when zero-children couples were compared to parents whose child was an infant. Broadening the scope to relationship satisfaction after becoming a parent (regardless of whether the pregnancy occurred in the context of marriage) informs our understanding of how pregnancy can impact romantic relationships.

Declines in overall relationship satisfaction after the birth of a child could be explained by reduced connection and commitment between the partners as they transition to parenthood. A recent study found that couples felt they had lost their individuality and their identity as a couple when they became parents, leading to loss of connection with their partner (Lévesque et al., 2020). Based on previous findings, potential factors leading to this loss in connection include an individual's expectations for their partner, their own

views towards parental roles and responsibilities, and communication with their partner (Adamsons, 2013; O'Reilly Treter et al., 2021; Yuying Le et al., 2016). Individuals, particularly mothers, who feel they are taking on more parenting tasks than their partner report lower levels of relationship satisfaction (Akçabozan et al., 2016); however, partners who feel they have a supportive coparent typically have better relationship outcomes (Durtschi et al., 2016). Couples with negative communication before the birth had gradual increases in negative communication after the birth, suggesting that the birth led to even less time spent working on positive communication and resolving conflicts within the relationship (O'Reilly Treter et al., 2021). In general, couples with different expectations or unfulfilled expectations experience declines in relationship satisfaction, whereas couples with shared expectations display increases in relationship satisfaction (Adamsons, 2013; Gallegos et al., 2020; Ter Kuile et al., 2021).

A couple's relationship status also predicts how its romantic relationship changes as the couple transitions to parenthood. Couples who are unwed and cohabitating with their partner as they transition to parenthood are more likely to dissolve their relationship after the birth of their child compared to married couples (O'Reilly Treter et al., 2021). A study using daily diary entries from pregnant cohabitating couples found that partners who make similar and easy sacrifices towards their relationship were more likely to report greater relationship stability and commitment after the birth of their child (Akçabozan et al., 2016). In contrast, women who felt they made greater daily sacrifices than did their partner reported lower relationship commitment and stability after childbirth (Akçabozan et al., 2016). This finding suggests that couples who are cohabitating during this transition may feel that the daily costs towards the maintenance

of the relationship after the birth outweigh the benefits of maintaining the relationship, thus leading to lower levels of commitment. Other studies have supported this finding, showing that couples who are not married before transitioning to parenthood have lower initial levels of commitment before the pregnancy, which continue to decline throughout the transition to parenthood (O'Reilly Treter et al., 2021). Although they report higher levels of commitment and are less likely to end their relationship, married couples also experience gradual declines in stability after the birth of their child (Adamsons, 2013; O'Reilly Treter et al., 2021; Yuying Le et al., 2016).

Post-childbirth marital functioning in Mexican American and other Hispanic couples has received increasing attention over the past decade. A theoretical/review article by Helms et al. (2011) summarized socioeconomic and historical factors (e.g., amount of work hours; whether husbands immigrated to the U.S. before their wives due to employment arrangements or both spouses immigrated together; clashing cultural values between one's heritage and host nations) affecting Mexican American parents' marital quality and egalitarianism in housework performance. For example, Mexican American fathers' work hours have been found to correlate negatively with their reported marital quality. More recently, McClain and Brown (2017) used the Fragile Families study, which includes large numbers of mostly unmarried parents from different racial-ethnic groups, to examine five-year trajectories of relationship quality in those couples who were cohabiting or married at the time of childbirth. They found Hispanic mothers to report lower relationship quality than did White mothers and Hispanic fathers to report higher relationship quality than did Black fathers. The current study expands on this

literature by exploring how a sample of mostly Hispanic couples' relationships change as they transition to parenthood.

Nonmarital Childbearing

Research on *premarital* childbearing (implying that the parents eventually marry) suggests that many individuals eventually marry the partner with whom they experienced pregnancy and birth. However, some couples never wed during their pregnancy or after the birth of their child, which would be considered *nonmarital* childbearing. Nonmarital childbearing has increased drastically over the past several decades, as more parents choose to cohabit or coparent rather than to marry (Carlson et al., 2008; Lichter et al., 2014).

Nonmarital pregnancy increases the likelihood of couples entering a cohabitating union (Thorsen, 2019). In recent years, a majority of nonmarital births were to cohabitating couples, with this numerical trend particularly pronounced in Hispanic and White (as opposed to Black) couples (Lichter et al., 2014; Manlove et al., 2010). Conceptions to cohabiters were also most prevalent among Hispanic couples (Lichter et al., 2014). White and Hispanic couples have shifted from having marital births to more frequently having nonmarital ones (Manlove et al., 2010). This may be attributed to couples in general, but possibly Hispanic couples to a greater degree (Guzman et al., 2010), viewing cohabitation as an appropriate setting to begin a family and considering cohabitation as a marriage-like relationship (Kamp Dush, 2011; Thorsen, 2019). Couples are also more likely to cohabit than marry when there are racial/ethnic differences between the partners. For example, unmarried Hispanic mothers partnered with a White father are more likely to cohabit with and less likely to marry their partner, compared to

Hispanic mothers with a Hispanic father (Manlove et al., 2010). Cohabitating couples

with children are more likely to remain unmarried than couples with zero children

(Thorsen, 2019). Further, like any other kind of relationship, cohabiting unions can break

up. Kamp Dush (2011) studied breakup among cohabiting, nonmarital childbearing

couples, noting two types of breakup: complete breakup (76%) and going back to a

dating, non-cohabiting relationship with the same partner (24%). Of note is Kamp Dush's

finding that "Hispanic mothers were more likely than non-Black/non-Hispanic mothers to

continuously cohabit rather than experience cohabitation dissolution as a [complete]

breakup" (p. 594).

Children born to cohabitating couples are at greater risk for adverse outcomes

compared to children born to married parents, because these children are less likely to be

raised by both parents (Lichter et al., 2014; Osborne & McLanahan, 2007; Manlove et al.,

2010). Although most nonmarital childbearing couples choose to cohabit (Lichter et al.,

2014), about half of the cohabiting couples will have dissolved their relationship and no

longer live together by their child's third birthday (Kamp Dush, 2021; Osborne &

McLanahan, 2007). By their fifth birthday, about three-fifths of children born outside of

marriage will experience parenting by a custodial mother and nonresident father (Carlson

et al., 2008; Kamp Dush, 2021). Most research suggests that nonresident fathers are less

likely to be involved in parenting than are cohabiting fathers (Carlson et al., 2008;

Manlove et al., 2010), leading to increases in single parenthood among nonmarital

childbearing women (Livingston, 2019). Nonresident father involvement after a

nonmarital birth differs across racial and ethnic groups. Hispanic fathers are less likely to

spend time with their child, engage in developmental activities, share responsibility for

the child, and effectively coparent with mothers than are Black fathers (Ellerbe et al., 2018). Father involvement and coparenting, especially among Hispanic fathers, further decline if their relationship with the mother dissolves (Ellerbe et al., 2018). There are negative effects of relationship dissolution and decreased father involvement for unmarried mothers, such as decreased financial support, declines in mental health, and increased reliance on social/government assistance programs (Edin, 2000; Kamp Dush, 2011; Waller, 2008; Williams et al., 2011).

Some research suggests that mothers' perception of the father and their overall relationship are factors in the nonresident father's involvement (Futris & Schoppe-Sullivan, 2007; Sheftall et al., 2010). One study found a high degree of coparenting among custodial mothers and non-resident fathers (Carlson et al., 2008). The authors suggested that these high rates of coparenting among nonmarital childbearing couples might stem from their relationship dissolution being less traumatic for the couple than would be a divorce, therefore leading to an easier transition to coparenting with the ex-partner. In a more recent study, Macon et al. (2017) found that fathers' stronger belief in investing time and energy with their children predicted greater involvement in caregiving. In general, nonresident fathers' involvement has been positively associated with a variety of child outcomes (e.g., social/behavioral, academic, and emotional/psychological), and maintaining a healthy coparenting relationship is important to a child's wellbeing (Adamsons & Johnson, 2013).

Although the current study focuses on couples with a nonmarital pregnancy who eventually marry (hence, not encompassing unmarried pregnant couples who do not marry), this study can add to the literature surrounding Hispanic couples' relationship

trajectories. Using a mostly Hispanic sample, the present study will be able to assess the premarital relationship progression of Hispanic couples who choose to marry after their nonmarital pregnancy and/or birth.

Interpersonal Process Models

Various interpersonal process models (e.g., Cate et al., 2002; Cate & Lloyd, 1992; Niehuis et al., 2006) explain how couples' commitment to marriage develops over the course of the premarital relationship. Core principles of one form of interpersonal process model, what Surra (1990) refers to as the gradual differentiation model, inform the ideas and hypotheses to be tested in the present study. These principles include relationship development: (1) entailing "alternating periods of growth and deterioration;" (2) change being relatively continuous and gradual rather than abrupt; (3) "developmental pathways differ[ing] across couples;" (4) new features of the relationship emerging over time, which involve both objective markers and subjective meanings; and (5) relationship trajectories being influenced by multiple causes, both proximal and distal (quotes from Surra, 1990, p. 857). Regarding the first principle, the gradual differentiation model assumes that couples' commitment to marriage does not merely increase persistently over time, but that couples may experience many subtle and/or intense increases and decreases in commitment as their relationships develop. The second principle refers to the idea that any substantive change in the relationship, e.g., from casual dating to exclusive dating/being a couple, do not occur abruptly, as prior stage models of relationship development might suggest, but instead occur in a more gradual manner. The third principle results from the first two, in suggesting that each couple's development of commitment to marriage, therefore, takes on a unique shape and takes differing amounts

of time, so that no two couples display the exact same pathway to marriage. This third principle is related to the fourth one, in that new features of relationships, e.g., couples' relationship status (such as casually dating, regularly dating, being a couple, getting engaged) or when certain milestones in a relationship occur (e.g., first have sexual intercourse, first fall in love with one another) emerge over time. Moreover, the timing of these new features also varies from one couple to next and is unique to each couple. Finally, the fifth principle states that each couple's development of commitment to marriage is influenced by multiple causes, both proximal, such as partners' feelings for and behavior toward one another, and distal, such as cultural norms of whether it is appropriate to have intercourse or to live together. These five principles, therefore, work together to suggest that there are as many commitment paths toward marriage as there are couples, with each pathway being uniquely shaped by individuals' own stable attributes (e.g., how religious they are), the dynamics of the partners' relationship, as well as various contexts (e.g., racial-ethnic, religion).

That couples experiencing a premarital pregnancy might travel different pathways of commitment to marriage (e.g., starting out high or low in commitment, and rising, falling, or remaining stable) is a central feature of the present study. Indeed, the five principles flow seamlessly into the following discussion of commitment (marriage-probability) trajectories during dating or courtship and provide the basis for expecting considerable variation in couples' trajectories. In addition, objective and subjective milestone events in a relationship such as first feeling in love with one's partner, first having sex with the partner, and first realizing one wants to marry the partner (Niehuis et al., 2016) serve as proximal drivers of relationship progress. More distally, partners'

religious values may also be associated with how partners' commitment to marriage may vary in couples with a premarital pregnancy. These topics are also addressed below.

Commitment Trajectories

Assessing Changes in Commitment to Marriage over Time

Prior research embedded within the interpersonal process model (Huston, 1994; Surra, 1997; Surra & Huston, 1987) has examined changes in partners' commitment beginning from when couples first began pairing up until either the end of the study (Ogolsky et al. 2016; Surra & Hughes, 1997) or their wedding date (Surra et al., 1987; Wilson & Huston, 2013). As noted, commitment represents the partners' perceived likelihood that the couple will get married (Surra & Hughes, 1997). Various researchers have used a method of retrospectively collecting data on commitment over the course of a relationship through graphing commitment trajectories (e.g., Surra et al., 1987; Wilson & Huston, 2013).

In the retrospective procedure, participants (interviewed separately from their partner) constructed from memory a graph of changes in the chance of marrying their partner over the course of their courtship. Interviewers in these studies compiled commitment-trajectory information in chronological order through an initial interview, providing contextual cues to stimulate participants' recollection of their relationship development. As Surra and Hughes (1997) summarized: "Respondents were shown a blank graph that had 'chance of marriage,' which ranged from 0% to 100%, on the vertical axis [Y axis], and 'time' in months on the horizontal axis [X axis]" (p. 9). Surra and Hughes defined the chance of marriage through the following scenario: "There may have been times when you have thought, with different degrees of certainty, about the

possibility of marrying [the partner]. These thoughts have been based on your ideas about eventually marrying [the partner] and on what you think have been [the partner's] thoughts about marrying you. Taking both of these things into consideration, we will graph how the chance of marrying [the partner] has changed over the time you have had a relationship" (Surra & Hughes, 1997, p. 9). Participants were told that if they were certain they would never marry their partner, the chance of marriage would be 0%, but if they were certain they would eventually marry their partner the chance would be 100%. Participants were asked to consider their own and their partner's feelings about marriage when completing the commitment graph because committing to marriage requires both partners to agree to marry one another. Participants were asked not to consider their degree of love or desire to marry their partner alone, but to consider all factors when completing the graph. The date when the relationship began and the dates of the interview and other key events (e.g., first feeling love for the partner; first sexual intercourse; first awareness of pregnancy, if they had a premarital pregnancy; timing of premarital cohabitation, if any) were marked on the bottom of the graph where time was measured. Respondents were asked what month they were first aware that the chance of marriage had changed from its initial value. The new value was marked, and respondents were asked about the shape of the line (e.g., straight line, J-shaped curve) that should connect the two points. The line marked on the graph to connect the two points constitutes a turning point and change in commitment trajectory in the relationship.

After the first turning point was drawn, the interviewer asked respondents, "Tell me, in as specific terms as possible, what happened here from [date] to [date] that made the chance of marriage change?" This question provided an account of the reasons for the

change for the researchers. Partners were then asked when they were next aware that the chance of marriage had changed again, and the structured questions were repeated for each turning point until the graph was completed up to the interview date. Respondents were then asked to divide the graph into four stages: casually dating, regularly dating, seriously dating, and committed to marriage publicly or privately.

Surra and colleagues' method of graphing commitment trajectories has been used in many studies. Her original method assessed retrospective data (e.g., Surra et al., 1987). Indeed, Huston (1994) suggested that using retrospective data from newlyweds, whose courtship would thus be fresh in their minds, should provide clear insight on how commitment progresses into marriage while also being able to track what specific courtship events increased marital commitment. Wilson and Huston (2013) also employed graphing method retrospectively in a study of couples recruited as newlyweds and followed over a 13.5-year period, linking spouses' independent agreement in their courtship trajectories to long-term marital stability. However, other studies have used this method to collect data prospectively with dating couples (i.e., interviewing participants repeatedly to obtain real-time marriage probabilities; e.g., Ogolsky et al., 2016). Ogolsky and colleagues graphed commitment trajectories over a 9-month period, during which, three phases of data were collected. Phase 1, consisting of a single in-depth assessment, was collected at the start of the study. Phase 2 consisted of seven shorter monthly interviews to graph monthly changes in commitment trajectories. Phase 3, involving another in-depth assessment, was conducted 9 months after Phase 1, and final commitment trajectories were graphed.

The research on commitment trajectories has revealed that there is great variation among individuals' development of their commitment to marriage, with some people reporting more dramatic and frequent changes in commitment versus other people reporting more steady and predictable trends.

Grouping Commitment Trajectories

To capture the diversity of trajectories, researchers have used various methods to group individuals' and couples' commitment graphs. Some researchers have used computer programs to sort trajectories into homogeneous clusters based on quantitative and verbal data. These have included relationship length (defined in the present study as the total number of months from the couple's first date to their wedding date), the number of upturns and downturns during the premarital relationship, overall turning points (whether upward or downward), and the extent to which commitment to marriage is based on either relationship-driven or event-driven factors. Surra and Hughes (1997), for example, used cluster analysis in their study of college dating couples to group similar trajectories together, with nine variables used as input to derive the clusters. These included two aspects of the commitment graphs – proportion of downturns and slopes of turning points (mean of absolute values) – along with scores for seven indices of reasons for changes in commitment (e.g., behavioral interdependence, conflict). Although Surra and Hughes's dataset consisted of heterosexual couples (i.e., participation from both partners), they submitted the data to the cluster analysis with individuals as the unit of analysis. In other words, the man from Couple 1 and the woman from Couple 1 would be separate cases. Surra and Hughes obtained a two-cluster solution, one they labeled relationship-driven and the other, event-driven. The event-driven cluster exhibited a

higher proportion of downturns, larger turning-point slopes in perceived marriage probability, and lower behavioral interdependence (among other differences) than did the relationship-driven cluster. The treatment of participants as individuals rather than paired dyad members revealed that, for 28% of couples, the two partners were not in the same cluster. Ogolsky et al. (2016) likewise treated romantic partners as individuals rather than as paired dyad members in their cluster analysis of commitment graphs, so that partners in the same couple could end up in different clusters.

Grouping Commitment Trajectories, Treating Participants as Paired Dyad Members: Partners' Similarity of Commitment Graphs

Similarity and Differences in Partners' Commitment Trajectories

Similarity and differences in partners' commitment trajectories have been linked to relationship functioning and stability (e.g., Wilson & Huston, 2013, described above). The present study defines partners' similarity and differences in their commitment trajectories via two parameters, namely each person's *trends* and *absolute levels*. Consider the hypothetical example of three assessment points. If a wife reported a marriage-probability sequence of 60%, 70%, and 80% and the husband's sequence was 30%, 40%, and 50%, the couple could be considered similar in their trends (a 10% increase at each successive point), but different in their absolute levels. If, instead, the husband reported a 58%, 69%, and 81% sequence, this would be similar in both trend and absolute level to the wife's 60%-70%-80% sequence. A couple in which the husband's sequence was 75%-75%-75% and the wife's was 60%-40%-20% would differ both in absolute levels and trends (steady vs. declining).

In the only known prior study of commitment graphs in premaritally pregnant couples, Surra et al. (1987) framed couple dynamics via behavioral (joint actions) and

psychological (emotions) interdependence. Findings did not support the idea of premarital pregnancies increasing couples' levels of broad measures of interdependence. Assuming that similarity of commitment graphs is a manifestation of interdependence and that premarital pregnancies do not, as a general proposition, increase couples' interdependence, that suggests some premaritally pregnant couples will show interdependence in the sense of partners' similar commitment trajectories, whereas other couples with a premarital pregnancy will lack interdependence and exhibit different commitment trajectories between partners. This reasoning suggests there will be sufficient variation in couples' commitment trajectories.

Relationship Progression and Milestones

Commitment trajectories and clusters derived from them are commonly characterized via several parameters, such as their overall length in months (i.e., how long the couple dated before they got married), how frequently commitment to marriage dropped after it had increased (i.e., number of downturns over the course of the relationship), and how quickly commitment grew in the relationship (i.e., accelerated from a 25% to a 75% chance of marriage). These variables, as well as timing of relationships milestones (discussed below), represent a range of "barometers" of how well relationships are going. These barometers conveniently capture relationship functioning for the researcher in just a few manageable dimensions. Downturns in marriage likelihood can reflect negative events within the relationship (e.g., an argument) or outside of it (e.g., one partner losing a job, delaying the couple's goal of saving up a certain amount of money before marrying). Accelerations can also reflect positive events (e.g., partners' mutual expression of love can sharply increase perceived marriage

likelihood). Relationship and cohabitation length are likely correlated with downturns and accelerations, but excessive relationship length can signify floundering (Niehuis et al., 2016). Timing of partners' first sexual intercourse with each other conveys passion and attraction (Sternberg, 1986), whereas developing feelings of love and desire to marry the partner reflect longer-term decisions and commitments (Sternberg, 1986), based on partners' crystallization of the events and experiences in their relationship. In sum, the measured variables capture a number of dimensions of relationship functioning.

Relationship Progression

Downturns. One common marker of commitment change or volatility is the frequency of downturns (Surra & Hughes, 1997), defined for present purposes as any reduction in perceived marriage probability from one time-point to the next. For example, if a respondent, after reporting a rise from 55 to 65% marriage probability, reported a sequence of monthly reductions to 63, 61, and 59% before stabilizing at 59%, these would be considered three downturns. Surra and Hughes (1997) found that individuals in event-driven couples, who alter their commitment trajectories primarily based on events that occurred in their relationship, experienced more downturns and were less compatible with their partner. Ogolsky and colleagues (2016) expanded on Surra and Hughes's original findings using the same sample of dating couples. They found that couples with more dramatic and conflict-ridden relationships experienced more frequent downturns in commitment trajectories and that these couples were more likely to be uncertain about marrying their partner. In contrast, couples who focused on their overall relationship success were more likely to show steady and deliberate changes (i.e., fewer downturns) in commitment trajectories. Wilson and Huston (2013) found that commitment-graph

discrepancies between spouses were positively associated with divorced men's reported number of downturns and with married and divorced women's number of downturns, suggesting that more turbulent courtships may be associated with partners' more dissimilar commitment graphs.

Acceleration of Commitment. A common marker of how quickly commitment has accelerated or grown in a relationship is the number of months it took for commitment to increase from a 25% to a 75% chance of marriage. Surra and Hughes (1997) found that relationship-driven partners showed a steady increase from a 25% to 75% chance of marriage. In contrast, event-driven partners moved quickly from a 25% to 75% chance of marriage. Wilson and Huston (2013) found that, in stably married wives, higher reported conflict was associated significantly with a greater number of months taken to accelerate from 25% to 75% marriage likelihood. More downturns were linked to longer times to accelerate both in intact wives and husbands. Finally, longer time to accelerate was linked to higher ambivalence in husbands. In sum, slower acceleration has tended to be associated with relatively turbulent relationship functioning. In the present study, therefore, dissimilarity in spouses' commitment trajectories (a marker of suboptimal relationship functioning) would be expected to be associated with slow acceleration.

Relationship and Cohabitation Length. The literature on premaritally pregnant couples' relationship progression has shifted in its findings, with different results emerging in the 2010s (Lichter et al., 2014; Ryan et al., 2010) vs. 1990s (Akerlof et al., 1996; Parnell et al., 1994). Earlier research found that couples were more willing to marry after the birth of their child to "legitimize" their family (Akerlof et al., 1996;

Parnell et al., 1994), leading to shorter courtships and a faster progression toward marriage. More recent studies have found that nonmarital-parent couples are less likely to marry and more likely to cohabit (Lichter et al., 2014; Ryan et al., 2010). Some cohabiting couples may view cohabitation as the first step toward committing to marriage (Thorsen, 2018). Research has shown that couples who are more committed to their relationship move from cohabitation to marriage more quickly than couples who are less committed and harbor greater uncertainty about their relationship (Harris, 2021; Kamp Dush, 2011; Steuber et al., 2014).

Non-engaged cohabiters' impressions of their relationships' future have also been studied in other ways than commitment graphs. Steuber et al. (2014), working within a relational-uncertainty perspective, sought to test previous characterizations (Lindsay, 2000; Manning & Smock, 2005) that "cohabiting partners rarely share the same understanding of their future together, and… that cohabitation contrives an unclear state of commitment" (p. 108). Steuber et al. introduced their non-engaged cohabiting participants to the three central facets of relational uncertainty, namely self-uncertainty (over one's own involvement in the relationship), partner-uncertainty (over one's partner's involvement), and relationship-uncertainty (uncertainty about the relationship itself). Participants then wrote open-ended descriptions of the uncertainty they felt, which the researchers sorted into 13 categories. One was labeled "relational steps," pertaining to participants' uncertainty over their partners' commitment to, or timeframe for, marrying. To the extent cohabiting couples with clear, coinciding visions of future marriage were most likely to marry the soonest, then lengthy cohabitation would be associated with partners' incongruence of commitment graphs.

Cohabitation length and courtship length are inevitably linked, so that shorter courtships often either do not involve cohabitation at all or a shorter cohabitation period, whereas longer courtships more likely involve cohabitation and longer cohabitation periods (Niehuis et al., 2016). The present study will assess potential links between couples' courtship and cohabitation lengths and partners' similarity in their commitment trajectories.

Relationship Milestones

Timing of relationship milestones such as partners' first sexual intercourse with each other and each partner's first feelings of love for the other have been referenced above. The current section examines relationship milestones within the larger context of relationship development. Past research has found that engagement in, or envisioning the timing of, relationship milestones are associated with commitment to marriage and dedication-type commitment (Owen et al., 2013; Surra & Hughes, 1997). Timing of relationship milestones may also be associated with commitment trajectories. Couples who reach relationship milestones quickly may have more similar commitment trajectories (Niehuis et al., 2016). However, Ogolsky et al. (2016) found that dating couples' passionate love (which may be associated with early occurrence of the milestones of having sex and feeling love for the partner) was particularly high in two types of courtship-graph based clusters, the conflict-ridden (in women and men) and social (friendship-approval based; in women) clusters. Individuals in these clusters did not tend to show similar commitment trajectories to their partners, hence early milestone occurrence may not correlate with partners exhibiting highly similar commitment graphs. Note that Niehuis et al. (2016) calculated average scores across several milestones and

across both partners to arrive at a "passion" score. This passion score obscures (a) how soon individual milestones were achieved by couples and (b) whether one partner arrived at these milestones sooner than the other partner. To illustrate, it is possible to arrive at an average passion score of 4 when both partners took four months to fall in love, have sex for the first time, and become certain they wanted to marry one another. Similarly, it is possible to arrive at the same average passion score when both partners took one month to fall in love, four months to have sex for the first time, and seven months to become certain of wanting to marry one another. Thus, to gain a deeper understanding of different groups of couples' commitment trajectories during pregnancy, it is important to examine these milestones separately from each other and for each gender.

Summary of Literature Review

To summarize the above literature, partners' commitment to marry likely fluctuates gradually over time (including possible accelerations and downturns), may well differ between partners within and between couples, and, upon discovery of a pregnancy, is likely based on a variety of factors. These factors include relationship and cohabitation length and the occurrence of relationship milestones (first sex, first feeling in love, first feeling certain of wanting to marry the partner, and getting engaged), which are potential proximal drivers of commitment. Traditional beliefs toward family life, perhaps grounded in high religiosity, may also serve as a distal driver of commitment to marry, which may be most common in Hispanic couples. These propositions match closely with those of the gradual differentiation model (Surra, 1990). As the strength of associations between these variables and similarity of commitment trajectories may vary by gender, it is important to examine husbands' and wives' variables separately.

Present Study

The present study analyzed only newlywed couples who experienced a premarital pregnancy that resulted in a live birth. All couples were 18 years or older and therefore adolescent pregnancies were not analyzed for this study. The study, therefore, expands our current understanding of premarital pregnancy, as most research explores the effects of adolescent pregnancies. This study also moves beyond the mere reporting of statistics (which is common in this literature) and instead provides information on courtship dynamics during a premarital pregnancy. Another strength of the present study is its sample of mostly Hispanic couples (an understudied population).

From a methodological perspective, the present study expands the approaches used to study the transition to parenthood over time. Although some studies (e.g., Canário & Figueiredo, 2016, with Portuguese couples; Ter Kuile et al., 2021, with Dutch couples) have repeatedly administered a relationship-quality questionnaire once every several weeks or months during and after pregnancy, none of them have used as fine-grained a method as the semi-structured interviews used here to derived at changes in commitment over the entire pregnancy period. Hence, the current project contributes to the literature by using a highly informative method to examine changes in commitment throughout the transition to parenthood for new parents via use of commitment trajectory graphs. Only one study, from several decades ago, has used commitment trajectories to investigate relationship dynamics during couples' pregnancy and the transition to parenthood (Surra et al., 1987).

In the present study, a different approach than in previous studies to grouping couples on similarity of commitment trajectories was used. Couples were grouped based on *both* partners' perceptions of changes in commitment over time, with each couple as a linked unit. Retrospective data collected from married couples were used rather than prospective data from dating couples, so that commitment to marry in courtship can provide information on the pathways to marriage. Furthermore, a single event in the relationship, a premarital pregnancy, was used to investigate: (a) different couples' changes in their commitment trajectories in the context of the pregnancy (i.e., characterizing groups via cluster analysis), and (b) how the clusters differ on other characteristics (e.g., demographics, courtship properties, such as downturns, and relationship milestones, such as first feeling love for their partner). For this study, only the six months prior to the discovery of the pregnancy and the eight months following it were examined, to home in on patterns of commitment change amidst the discovery and course of pregnancy. The original plan was to examine commitment trajectories from nine months before discovery of the pregnancy to nine months after this discovery (around the time of the birth). These timelines are only approximations, however, as the average time to discovery of a pregnancy is 5.5 weeks gestational age (Branum & Ahrens, 2017). In preliminary feasibility testing (e.g., ascertaining whether enough couples in the broader newlywed sample had experienced a premarital pregnancy), it was found that some couples had been together for fewer than nine months before first discovering their pregnancy. Hence, to increase the sample size and decrease missing data, analyses focused only on six months prior to discovery of the premarital pregnancy. Only eight months of pregnancy were analyzed, as some couples reported premature

births. Past research on marital commitment (Ogolsky et al., 2016; Surra & Hughes, 1997) suggests that cluster analysis allows for different relationship typologies to be identified.

Although the nature of the clusters cannot be known until the analyses are completed, it was considered likely that some clusters would be characterized by strong similarity in partners' commitment trajectories, whereas others would be characterized by greater discrepancy. Also, some clusters would likely contain partners who were generally high in the commitment to marry, others would likely contain couples with lower commitment, and still others would likely contain spouses whose commitment to marry would either rise or fall during courtship.

Research Questions and Hypotheses

As noted, the present study includes only couples who (a) experienced a nonmarital pregnancy and (b) ultimately married. No comparisons were available either to couples who did not marry after a nonmarital pregnancy or to those who married but did not experience a premarital pregnancy. Based on prior research (Surra et al., 1987), it was expected – as a general proposition – that contextual aspects associated with the discovery of a premarital pregnancy would affect partners' development of commitment to marriage. The following research questions and hypotheses articulate more specific expectations.

Research Question 1: Would spouses and couples exhibit sufficient variation in their commitment trajectories to support multiple clusters? Further, what types of marriage-commitment trajectories (e.g., high, low, rising, falling, in husbands and in wives) would each cluster exhibit?

Research Question 2: Would clusters in which partners have more similar commitment trajectories differ from clusters in which partners have more dissimilar trajectories with regard to standard demographic variables (i.e., race/ethnicity, religiosity)?

Hypothesis 1: In couples in which partners have more similar commitment trajectories, partners would have cohabited for a shorter amount of time (cohabitation length in months), had a lower rate of downturns in commitment (marriage probability), accelerated more quickly (fewer months) from a 25 to 75% chance of marriage (acceleration), and overall had a shorter dating relationship (relationship length) than partners in couples with dissimilar commitment trajectories.

Hypothesis 2: In couples with more similar commitment trajectories, partners would reach relationship milestones (i.e., number of months until first sexual intercourse, first fell in love with the partner, first felt committed, first felt certain of wanting to marry the partner, first got engaged) sooner than partners in couples with more dissimilar commitment trajectories.

Supplemental Analysis: Because, as noted above, existing studies have not often distinguished between *pregnancies* (which were all premarital in this study) and *births* (which could occur before or after the wedding day), the present study did so. Couples were categorized according to premarital or marital births and compared on all study variables. Differences were noted, to help put other findings in context.

CHAPTER III

METHODS

The following section describes the sample, data collection procedures, and measures. Data came from the Newlywed Study (Sylvia Niehuis, PI), which received IRB approval at Texas Tech University and follows the research ethics principles of the American Psychological Association. The original project was launched several years ago to gain a better understanding of Hispanic newlyweds, an understudied group and one comprising a large share of the local population. The study was designed to parallel earlier newlywed studies, such as the PAIR Project (Huston et al., 1986), which was one of the earliest studies of newlyweds (with a sample comprised mainly of working-class White couples in central Pennsylvania), and the Early Years of Marriage Study (Orbuch et al., 2002), which examined a Michigan sample with large numbers of African American and White couples.

Sample

The study used data collected as part of a larger project on newlywed couples. Couples resided in the Lubbock, Texas area. To be included in this study, couples had to be 18 years of age or older, married for less than six months, in their first marriage, and capable of being interviewed in English. Couples were recruited primarily via the research team's inspection of marriage-license applications (in the public domain) at the Lubbock County Courthouse. Because these marriage-license applications do not contain information on race and ethnicity, couples with Hispanic-sounding names were sought for recruitment because of the principal investigator's special interest in this population. Various surname-based sampling systems have been used for many years (Mateos, 2007;

also see Kim et al., 2014, on recruiting Korean participants, and Elliott et al., 2013, on recruiting Hispanic participants, based on surnames). However, participants of other racial backgrounds were recruited as well. Participants were also recruited through local magazines and newspaper advertisements.

When couples were newly married (married for no more than six months), the sample included 192 primarily heterosexual couples (see Table 1). Participants were an average of 21.65 years old when they began dating their future spouse and were on average 25.53 years old when they married their spouse. The sample was mostly comprised of Hispanic/Latinx participants (52.9%) and White participants (39.6%). Non-Hispanic White (52.7%) and Hispanic/Latinx (36.3%) residents are the largest racial-ethnic groups in Lubbock County according to the most recent statistics (U.S. Census Bureau, 2019). A plurality (mode) of participants reported attending some college (37.5%) as their highest level of education. As noted in a previous publication from the lab (Wood et al., 2017), the educational attainment of Hispanic men and women in the Lubbock-area Newlywed Study closely resembled that for Hispanic men and women throughout Texas (matched roughly on age and marriage timing), based on Census data. As one example, 10.0% of Hispanic men in the present sample had a bachelor's degree, whereas 10.7% of Hispanic men in Texas did. The present participants also reported being religious with 25.5% being somewhat religious and 21.9% being very religious. Most participants reported being Christian, with 27.3% Baptist and 30.7% Catholic.

For the present study, a subsample of 50 newlywed couples, who experienced at least one premarital pregnancy during their courtship, was studied. Premarital pregnancy in the larger study was ascertained via two processes (described in greater detail below).

First, during the face-to-face interview, each partner independently and out of earshot from the other partner was asked whether and when during the premarital relationship the female partner became pregnant and whether and when the female partner had a miscarriage or abortion. Second, participants were also asked in their questionnaire whether they had any children with their current spouse (answer options were "yes" and "no"). Sixty-eight couples reported having a premarital pregnancy. Given that participation in the study occurred within the first six months since the wedding, some couples differed on when they became pregnant during their courtship, the result of their pregnancy (i.e., miscarriage, abortion, or live birth), and how many pregnancies they had during courtship. To address these discrepancies, interview transcripts were analyzed to determine what each partner reported about the timeline and outcome of the pregnancy. Of the 68 couples, 50 couples had similar timelines and similar results and so were retained (see Table 1 for demographic analysis). Among the 50 retained couples, there were some small discrepancies between when husbands and wives said the premarital pregnancy occurred; in those cases, the wife's timeline was used, as her account was deemed more reliable.

Table 1.

Descriptive Statistics of the Full Sample and the Subsamples

Variables	All Husbands	All Wives	Premarital Pregnancy Husbands	Premarital Pregnancy Wives
Demographic Variables				
Age at Marriage				
N (Nmiss)	177 (0)	177 (0)	50 (0)	50 (0)
Mean ± SD	25.61±6.03	24.45±6.17	25.3±4.48	24.46±4.42
Min – Max	18-64	18-74	19-38	18-36
Race/Ethnicity				
White *n* (%)	70 (39.5)	70 (39.5)	3 (6)	4 (8)
Hispanic *n* (%)	94 (53.1)	94 (53.1)	44 (88)	45 (90)
Other *n* (%)	13 (7.3)	13 (7.3)	3 (6)	1 (2)
Income				
N (Nmiss)	175 (2)	173 (4)	50 (2)	50 (3)
Mean ± SD	2.13±0.87	1.69±0.80	2.23±0.88	1.53±0.72
Min – Max	1-5	1-5	1-5	1-3
Education				
Some High School *n* (%)	12 (6.8)	10 (5.6)	6 (12)	8 (16)
High School Degree *n* (%)	35 (19.8)	30 (16.9)	15 (30)	15 (30)
Associates Degree *n* (%)	13 (7.3)	10 (5.6)	5 (10)	2 (4)
Technical school *n* (%)	6 (3.4)	4 (2.3)	2 (4)	2 (4)
Some college *n* (%)	60 (33.9)	73 (41.2)	19 (38)	21 (42)
Bachelor's degree *n* (%)	32 (18.1)	32 (18.1)	3 (6)	2 (4)
Master's degree *n* (%)	16 (9)	16 (9)	---	---
Doctoral degree *n* (%)	3 (1.7)	2 (1.1)	---	---
Religious Denomination				
Baptist *n* (%)	51 (28.8)	49 (27.7)	7 (14)	6 (12)
Catholic *n* (%)	54 (30.5)	52 (29.4)	18 (36)	22 (44)
No Affiliation *n (%)*	29 (16.4)	26 (14.7)	7 (14)	6 (12)
Other *n (%)*	41 (23.2)	47 (26.6)	18 (36)	14 (28)
Religiosity				
N(NMiss)	176 (1)	177 (0)	50 (0)	50 (0)
Mean ± SD	3.05±1.54	3.25±1.49	2.86 ± 1.34	2.82 ± 1.35
Min – Max	0-5	0-5	0 - 5	0 - 5
Premarital Relationship Variables				
Relationship Length				
N (NMiss)	177 (0)	176 (1)	50 (0)	49 (1)
Mean ± SD	46.69±39.28	47.44±40.15	64.16 ± 49.68	66.44 ± 50.77
Min – Max	2 – 228	1 – 228	6- 187	6 - 187
Cohabitation				

Yes *n* (%)	121 (68.8)	123 (69.9)	45 (90.0)	46 (92.0)
No *n* (%)	55 (31.3)	53 (30.1)	5 (10.0)	4 (8.0)

Table 1, cont.

Descriptive Statistics of the Full Sample and the Subsamples

Variables	All Husbands	All Wives	Premarital Pregnancy Husbands	Premarital Pregnancy Wives
Premarital Relationship Variables, cont.				
Cohabitation Length				
N (NMiss)	122 (55)	123 (54)	46 (4)	46 (4)
Mean ± SD	35.20±39.72	35.02±38.71	47.22 ±	45.74 ±
Min – Max	1 - 228	1 – 228	43.80	42.58
			2- 163	2 - 163
Downturns during Dating				
N (NMiss)	175 (2)	174 (3)	50 (0)	50 (0)
Mean ± SD	0.04±0.06	0.04±0.07	0.04 ± 0.08	0.03 ± 0.05
Min – Max	0.00 – 0.48	0.00-0.67	0.00 – 0.48	0.00 – 0.21
Acceleration (25% to 75%)				
N(NMiss)	86 (91)	86 (91)	31(19)	31 (19)
Mean ± SD	16.74	17.09±23.55	19.90 ±	22.52 ±
Min – Max	±20.03	0 - 153	23.39	34.18
	0 - 91		0 – 91	0 - 153
First Sexual Intercourse				
N (NMiss)	177 (0)	177 (0)	50 (0)	50 (0)
Mean ± SD	5.23±8.32	5.06±24.85	5.20 ± 8.33	6.14 ± 9.30
Min – Max	-1 - 52	-1 – 42	1 – 52	1 – 37
First Committed				
N (NMiss)	171 (6)	171 (6)	48 (2)	48 (2)
Mean ± SD	24.06±26.52	25.61±27.20	32.96 ±	37.38 ±
Min – Max	0 - 124	0 – 160	34.78	36.48
			0 - 122	0 - 160
First Certain				
N (NMiss)	177 (0)	177 (0)	48 (2)	48 (2)
Mean ± SD	24.85±26.77	25.08±32.90	31.44 ±	38.50 ±
Min – Max	0 - 124	1 – 228	28.07	40.47
			2 - 134	1 - 186
First Engagement				
N (NMiss)	171 (6)	171 (6)	48 (2)	48 (2)
Mean ± SD	32.72±34.35	34.35±32.68	44.23 ±	48.38 ±
Min – Max	0 – 187	0 – 160	40.69	43.14
			0 - 187	0 - 160

Note. The husband's range on the variable "first sexual intercourse" includes a score of - 1, which indicates that according to the husband, the couple's first sexual intercourse took place before they began dating. The wife's range on the variable "first certain of wanting to marry the partner" includes a score of -1, indicating that the wife reported she never felt certain about marriage wanting to marry their partner.

These 50 couples were between the ages of 18 and 38, with husbands' average age at the time of marriage being 25.30 years old and the wives' being 24.46 years old. On average, men in the subsample began dating their current spouse when they were approximately 20 years old and women when they were approximately 19 years old. The racial-ethnic composition of the subsample husbands was 44 Hispanic/Latinx participants (88%), 3 White (6%), and 3 Other (6%; respondents could select from several racial-ethnic categories or "other" as shown in Appendix A – categories other than White or Hispanic were merged into a larger "Other" category for this study). The racial-ethnic composition for wives was 45 Hispanic/Latinx (90%), 4 White (8%), and 1 Other (2%). Most husbands and wives reported attending some college (38% of men and 42% of women) or graduating from high school (30% of men and 30% of women) as their highest form of education. Most husbands (34%) and wives (40%) reported being somewhat religious, with 18 husbands (36%) being Catholic and 18 (36%) reporting a different religious denomination; and 22 wives (44%) being Catholic and 14 (28%) reporting being a member of another religious denomination.

Data Collection Procedures

Potential participants were sent letters of recruitment. Data were then collected by sending interested and eligible couples two questionnaires (one for each spouse) by mail.

Participants were instructed to complete these questionnaires independently from one another. The questionnaires asked about demographic information such as race, education, income, work status, and religiosity, as well as information on their relationship, such as whether and how long they cohabited. In addition, participants also completed a large battery of measures retrospectively assessing a variety of attitudes, perceptions, and evaluations of their partner and their relationship with their partner prior to marriage, and about their relationship history (e.g., how well they knew the partner before they began dating, how old they were when they first began dating their partner).

Once each spouse had completed their questionnaire, the couple contacted the lab to schedule in-person interviews. Participants delivered their self-completed surveys when arriving for their in-person interviews. Before the interview began, both partners were asked when they first began dating one another and when their wedding was. Then, each spouse was led by a trained research assistant to a separate room so that spouses were out of earshot from one another for the duration of the interview. Interviews were conducted in a semi-structured format. First, spouses were asked to construct a timeline of their courtship, following methods developed by Surra (e.g., Surra et al., 1987) and Huston (1994). Graph paper was used with the baseline showing the total months of courtship to the wedding date. Using this graph, spouses were asked to chart on the vertical axis their marital commitment (perceived probability of marrying the partner) throughout their courtship and to mark periods of time when they and their partner were casually dating, regularly dating, viewed themselves as a couple, and/or were committed to marriage. The commitment graphs were next populated by events that may have taken place in the spouses' premarital relationship (e.g., first feeling in love with the partner,

first sexual intercourse with the partner, initial feeling of certainty in wanting to marry the partner), with each event's timing indicated alongside the corresponding commitment ratings. Having completed this portion of the interview, partners then filled out the relationship questionnaire, which contained a large battery of instruments assessing attitudes, values, emotions, self-reported behaviors, and evaluations of the spouse and their marriage. Once both spouses had completed their interviews and the second questionnaire, they received $100 per couple for their participation.

Measures

Measurement format, sample items, and alpha (internal consistency) reliabilities are reported below for variables, where applicable. Means and standard deviations for ordinal or ratio variables, and percentages for categorical variables, appear in Table 1.

Premarital Pregnancy

A premarital pregnancy was determined by multiple factors. First, partners were asked at six-months into marriage, "Do you have any children with your current spouse?" Respondents could answer either *Yes* or *No*. This question was asked during the relationship questionnaire (Appendix A). Because most pregnancies have a 9-month gestation period, it was assumed that the child would have been conceived before their wedding date, which was 6 months prior. We confirmed a premarital pregnancy by assessing whether the partners marked that they had an "Actual Pregnancy" on their Relationship Events Chart (Appendix D). The outcome (i.e., abortion, miscarriage, or live birth) of the pregnancy was determined by in-depth one-on-one interviews. Only couples with a premarital pregnancy resulting in a live birth of a child were included in this study.

Premarital and Marital Births

Whether a birth occurred before (premarital) or after the wedding day (marital) was determined by using the partners' commitment charts (Appendix C) and Relationship Events Charts (Appendix D). Coding was dichotomous into *premarital* or *marital*, based on the couple's relationship duration and commitment timelines, since the birthdate of the child was not gathered during data collection. If the commitment chart ended, signifying that the couple married before 8 months, it was determined that they married before the birth of the child. If the commitment chart continued beyond 8 months, it was determined that they had a marital birth. The premarital birth group consisted of 37 couples and the marital birth group of 11 couples. For two couples, timing of the birth could not be determined.

Demographic and Dating History Variables

Demographic variables were measured via the relationship questionnaire (Appendix A). Dating history variables were assessed via the Relationship History Questionnaire (Appendix B).

Age at marriage. Age at marriage was ascertained by asking the participant the open-ended question, "How old were you when you got married to your current spouse?"

Race/ethnicity. Participants were asked, "What is your race/ethnicity?" Participants could give one of the following responses: 1 = *White/Non-Hispanic*, 2 = *African American/Black*, 3 = *Hispanic/Latinx*, 4 = *Native American/American Indian or Alaska Native*, 5 = *Asian/Asian American*, 6 = *Multiracial*, 7 = *Other (please explain)*.

Education. To measure education, participants were instructed, "Please indicate your own highest level of education." Answer options were 1 = *Some high school*, 2 =

High school graduate, 3 = *Associate's degree*, 4 = *Technical school*, 5 = *Some college*, 6 = *Bachelor's degree*, 7 = *Master's/Law degree*, 8 = *Ph.D./M.D.*

Income. To measure income, participants were asked, "For statistical purposes only, what (approximately) is your own annual income?" Answer options were 1 = *Under $10,000,* 2 = *$10,000 to $29,999*, 3 = *$30,000 to $49,999*, 4 = *$50,000 to $69,999*, 5 = *$70,000 to $89,999*, 6 = *$90,000 to $119,999*, 7 = *$120,000 to $139,999*, 8 = *Over $140,000.*

Religiosity. Participants indicated on a 5-point Likert-type scale how religious they were, with 0 = *not at all religious* to 5 = *very religious*.

Religious Denomination. Religious denomination was assessed by asking participants to choose one of the following options: 1 = *Baptists or other Protestant*, 2 = *Buddhist*, 3 = *Catholic*, 4 = *Hindu*, 5 = *Jewish*, 6 = *Latter-Day Saint (Mormon)*, 7 = *Muslim*, 8 = *No formal religious affiliation*, 9 = *Other*.

Commitment to Marriage

Commitment to marriage was assessed using the retrospective procedure used by Huston (1994), described in Chapter 2 above. Thus, commitment charts (see Appendix C) were used to graph each spouse's estimates of the likelihood (0-100%) that the couple would get married (i.e., taking both spouses' perception into consideration) from turning point to turning point over the course of the entire dating relationship up until the wedding day. Then, commitment levels for each month and each spouse were entered into SPSS to arrive at a data series of monthly commitment estimates for each spouse.

Because the study's purpose is to learn how awareness of the female partner's premarital pregnancy affects both partners' commitment to marriage, initially, each

spouse's commitment (marriage-probability) levels were reviewed each month in the interval from roughly nine months before pregnancy awareness (assessed as a relationship milestone, see below) to completion of the pregnancy and delivery. Some couples were not be able to provide all these values (e.g., those who became pregnant five months after their first date). To increase manageability of the data, the monthly marriage-probability estimates were averaged into "trimonthly" intervals (7-9 months before pregnancy awareness, 4-6 months before, 1-3 months before, onset of awareness ["time 0"] to 2 months after pregnancy, 3-5 months after, and 6-8 months after).

Acceleration of Commitment

Acceleration of commitment was measured by counting the number of months it took for the chance of marriage to increase from 25% to 75%, separately for each spouse.

Proportion of Downturns

As noted, a downturn is defined as a decline in commitment to marriage. First, the number of such declines was counted. Further, because a longer courtship can experience more downturns than a shorter one, the number of downturns across the entire courtship was divided by the total number of months in the relationship (i.e., relationship length).

Relationship Duration

Relationship duration was measured as the number of months between when couples first began dating and the wedding day.

Relationship Milestones

Once participants had completed the semi-structured interview yielding the commitment to marriage graphs, they were asked to indicate on the Relationship Events Chart (see Appendix B) when several typical relationship events first occurred in the

relationship and (if applicable) how long they lasted. *First sexual intercourse*. Couples were asked to indicate what month and year in their courtship they had their first sexual intercourse with their partner. Based on this information and the month and year when the couple began dating, the number of months into the relationship was counted until the couple had sexual intercourse for the first time. The same approach was used for the following milestones: *First feeling in love with future spouse, first feeling committed to the relationship, first feeling certain of wanting to marry the partner; and first getting engaged.* This approach was also used to assess potential events, such as whether the *female partner was pregnant, the female partner had a miscarriage, the female partner had an abortion, the female partner gave birth*, etc.

Cohabitation and Cohabitation Length

Two measures pertained to cohabitation. One denoted whether couples cohabited at all before marriage (*yes/no*) and was used simply to document if a couple cohabited or not. Cohabitation length was measured as the number of months the couple cohabited (i.e., lived together) before marriage. The latter variable was analyzed only for couples who had cohabited at least one month, thus reflecting cohabitation length *among those who cohabited*. Note that cohabitation and cohabitation length were assessed in two places within the overall assessment, once within the "Relationship History" section of the interview and also within the Relationship Events Chart (Appendix D). Only the survey-based items were analyzed. There were some very occasional within-couple discrepancies in husbands' and wives' reports of whether they had cohabited. One possible explanation is that one partner frequently stayed overnight with the other partner, which one interpreted as cohabiting but the other did not.

CHAPTER IV

DATA ANALYSIS OVERVIEW

The study grouped couples who experienced a premarital pregnancy into distinct clusters based on how their commitment to marriage developed over time (i.e., commitment trajectories). All couples within a given cluster were homogeneous with regard to husbands' and wives' slopes and absolute levels of commitment to marry, whereas the clusters differed from one another. These trajectory-based groups of couples were then compared with regard to (1) their shapes and frequency in a descriptive sense, (2) demographic characteristics of cluster members, (3) how the trajectory clusters differed in premarital characteristics (e.g., how quickly couples accelerated their commitment to marry and their rate of downturns), and (4) how quickly couples reached important milestones in their relationship (e.g., first sex, first feeling in love) were associated with the different commitment trajectories.

Research Question 1 (Generating and Characterizing the Clusters)

To test Research Question 1, an iterative/k-means cluster analysis (Rapkin & Luke, 1993) was used to divide couples into subgroups based on husbands' and wives' trajectories of marital commitment (perceived marriage probability) from six months before pregnancy awareness to delivery or marriage. Clusters were created by submitting both husbands' and wives' separate trimonthly commitment values (i.e., average from 4-6 months before pregnancy awareness, 1-3 months before, pregnancy onset ["time 0"] to 2 months post-discovery, 3-5 months post-discovery, 6-8 months post-discovery) into the analysis. Thus, clusters are "couple-level," encompassing both spouses' data, rather than being based only on husbands' perceptions or wives' perceptions. Clustering algorithms

seek subgroups in which members within a group are similar to each other on the clustering variables, but different groups differ from each other. Given the present sample size of couples with a pregnancy ($n = 50$), two or three clusters were deemed most appropriate. Final determination of the number of retained clusters was based on aspects such as number of couples per cluster and interpretability of the solution (Rapkin & Luke, 1993). The clusters differ on (a) whether husbands and wives tended to agree or disagree in their marriage-probability trajectories, and (b) husbands' and wives' commitment trends before, during, and after the premarital pregnancy. Thus, some clusters may contain couples in which spouses' marriage probabilities steadily and/or synchronously increase from pre-pregnancy to during pregnancy to after pregnancy, whereas others may contain couples in which these probabilities are asynchronous and/or initially decrease but later increase or remain static. To characterize or describe the nature of the clusters (e.g., "Cluster 1 consisted of couples who exhibited [type of trends], whereas Cluster 2 consisted of couples who exhibited [different type of trends]"), means on husbands' and wives' trimonthly marriage-commitment variables were inspected for each cluster.

Hypotheses 1 and 2 and Research Question 2 (Comparing Clusters on Other Variables)

Because of the small sample sizes of the clusters and lack of normality of the variables being compared between clusters (i.e., intact couples not being representative of all couples), non-parametric tests were used to test Hypotheses 1 and 2 and Research Question 2. A three-cluster solution emerged, thus clusters were compared via Kruskal-Wallis tests, which are analogous to parametric one-way Analyses of Variance

(ANOVA). A Kruskal-Wallis test allows for comparisons between clusters to see if a variable (e.g., dating length) differs between clusters in accordance with Hypotheses 1 and 2 and Research Question 2. The Kruskal-Wallis allows for comparisons between the clusters and provides statistics on which groups are significantly different from one another. In other words, with three clusters, the Kruskal-Wallis test yields both an overall significance test of whether at least one group differs from at least one other group and specific comparisons of each group vs. each other group, to pinpoint the source(s) of difference. Clusters were compared on categorical variables (e.g., race-ethnicity) via chi-square tests.

According to Van Hecke (2012), for non-normal (i.e., asymmetrical) distributions, the Kruskal-Wallis test provides greater statistical power than does a one-way ANOVA. For medium effect-sizes, cells (clusters) with 10-20 cases yield power estimates ranging from .40-.75 (see Van Hecke's Figure 2).

Supplemental Analysis

To test for any differences between couples whose premarital pregnancies led to births before or after the wedding, premarital (before) and marital (after) groups were compared via t-test on quantitative variables and chi-square tests on categorical variables.

CHAPTER V

RESULTS

Research Question 1: Generating and Characterizing Clusters

Research Question 1 sought to determine whether couples could be divided into relatively equally sized and interpretable clusters based on both husbands' and wives' reported commitment trajectories before and during pregnancy. To accomplish this, k-means clustering was conducted using SPSS. Two-cluster, three-cluster, and four-cluster solutions were tested. The two-cluster solution had one cluster consisting of 27 couples and another of 23 couples. The three-cluster solution revealed clusters of 11, 23, and 16 couples. The four-cluster solution had small cluster sizes, with the first one consisting of 8 couples, the second of 9 couples, the third of 23 couples, and the fourth of 10 couples. Thus, the four-cluster solution was eliminated due to cluster sizes that were too small. Of the remaining two- and three-cluster solutions with acceptable cluster sizes, the three-cluster solution was kept, because even though the cluster-specific sample sizes in the two-cluster solution were substantial and balanced, the three-cluster solution revealed more interesting nuances and trends not seen in the two-cluster solution. The three-cluster solution seemed the best solution due to the number of couples per cluster and the interpretability of the solution (Rapkin & Luke, 1993).

In all three clusters, both partners showed a gradual rise in perceived commitment before and during the pregnancy. However, each cluster differed in absolute commitment levels between partners (see Figure 1). In Cluster 1, both husbands' and wives' average commitment levels rose but wives reported higher absolute levels of average commitment

than did their husbands. Wives in this cluster began six months before marriage with an

average commitment
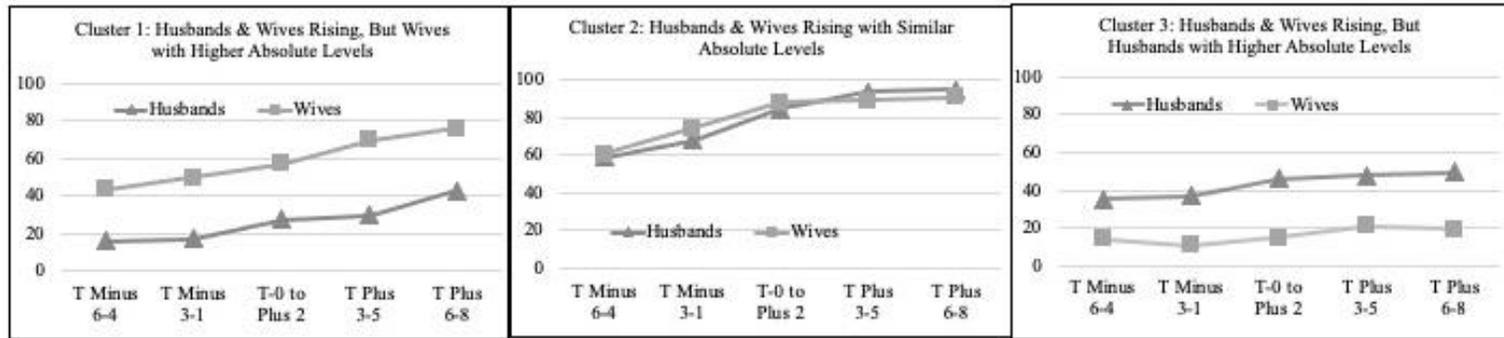
Figure 1.

Changes in husbands' and wives' mean commitment (marriage probability estimate from 0-100%) over time within each cluster. $T_{Minus6-4}$ represents monthly marriage probabilities averaged over the three months of 4, 5, and 6 months before pregnancy discovery. This three-month average is also known as a "trimonthly average." Using the same system, $T_{Minus3-1}$ represents the trimonthly average of 1-3 months before pregnancy discovery, T_0-T_{Plus2} that from the pregnancy-discovery month to 2 months post-discovery, $T_{Plus3-5}$ that from 3-5 months post-discovery, and $T_{Plus6-8}$ that from 6-8 months post-discovery.

level (marriage probability) of 43.2%, which had risen to 75.8% by the end of their

pregnancy, whereas husbands began at 16% and ended at 43.8% (Figure 1, see Graph 1).

For Cluster 2, both husbands' and wives' average commitment levels rose gradually from

around 60% (57.9% in husbands, 60.4% in wives) six months before pregnancy to the

80s (84.4% in husbands, 87.8% in wives) at the time of pregnancy discovery (T_0-T_{Plus2}).

These commitment levels then rose more slowly during the remainder of the pregnancy,

so that both partners ended in the low 90s (94.7% in husbands, 90.7% in wives) (Figure

1, Graph 2). Finally, Cluster 3 showed both husbands and wives rising in commitment

throughout pregnancy, but husbands reported higher absolute levels in commitment. In

this cluster, husbands began with a commitment level of 35% and by the end of the

pregnancy were at 49.3%, whereas wives in this cluster began with 13.9% commitment to

marriage and ended at 19.1% (Figure 1, Graph 3).

Research Question 2 and Hypotheses Testing

As noted, non-parametric Kruskal-Wallis tests were used to compare the three

clusters on other variables. For informational purposes, however, Tables 2 and 3 below

show each cluster's means on variables' original metrics (e.g., timing of engagement), as

well as the mean ranks used by the Kruskal-Wallis test. Kruskal-Wallis tests convert

original scores to ranks. For example, the longest period couples waited to be engaged

reported by any of the 50 wives was 187 months, so this wife was assigned a rank score

of 50. The second-longest wife's reported timing of engagement was 113 months; this

wife received a rank score of 49. The wife with the shortest period of time until

engagement would receive a score of 1. Note, however, that two or more people can be

tied with the same score. In this case, modified ranks would be used. For example, if two

people tied for the 20th highest score, then they would each receive ranks of 20.5 (averaging the ranks of 20 and 21 that they would have occupied if one person scored slightly higher than the other). Note also that ranks do not take account of "distance" between two scores. Whether one person is 10 points higher than the next person or 1 point higher, the ranks will be one apart in either case. Because ranks are used rather than original means, outliers will not skew the results of the Kruskal-Wallis tests. Kruskal-Wallis tests yield an H statistic; the larger the H, the more likely the result is to be significant. A significant H tells us that at least one cluster differs from at least one other cluster on the variable under comparison. When H is significant, one can consult the output for significance tests between each pair of clusters to pinpoint which clusters differ from each other.

Research Question 2: Comparing Clusters on Demographic Variables

Research Question 2 pertained to whether there were demographic differences between couples whose cluster represented similar commitment trajectories (i.e., Cluster 2) and couples whose clusters depicted dissimilar commitment trajectories (i.e., Clusters 1 and 3). When referring to Table 2 below, the only demographic variable where clusters significantly differed was husbands' reported religiosity. Using a Kruskal-Wallis test, results showed that Cluster 1 differed from Cluster 3 ($p = .04$). Hence, the "husbands' higher absolute commitment" cluster showed greater mean-rank in the husbands' reports of religiosity than in the "wives' higher absolute commitment" cluster. The three clusters did not differ on wives' demographic characteristics (see Table 3).

Table 2.

Kruskal-Wallis Analyses Comparing Clusters on Husbands' Demographic and Premarital-Relationship Variables.

	Cluster 1: H&W Rising, W Higher in Absolute		Cluster 2: H & W Rising, with Similar Absolute		Cluster 3: H&W Rising, H Higher in Absolute		*p*-value (Kruskal-Wallis)	Significant Group Diff.
Variables	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)		
Demographic Variables								
Religiosity	2.18	16.95	2.83	25.67	3.38	31.13	.04	1 vs. 3
Premarital Relationship Variables								
Relationship Length	81.55	31.59	39.70	18.00	87.38	32.98	.004	1 vs. 2 2 vs. 3
Cohabitation Length	22.18	30.14	12.23	21.20	19.60	25.20	.22	--

Table 2, cont.

Kruskal-Wallis Analyses Comparing Clusters on Husbands' Demographic and Premarital-Relationship Variables.

	Cluster 1: H&W Rising, W Higher in Absolute		Cluster 2: H & W Rising, with Similar Absolute		Cluster 3: H&W Rising, H Higher in Absolute		*p*-value (Kruskal-Wallis)	Significant Group Diff.
Variables	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)		
Premarital Relationship Variables								
Downturns during Dating	.02	24.45	.03	22.61	.06	30.38	.22	--
Acceleration (25% to 75%)	29.43	20.57	7.92	10.73	28.00	19.32	.02	1 vs. 2 1 vs. 3
First Sexual Intercourse	4.00	28.00	3.74	24.65	8.13	25.00	.80	--

Table 2, cont.

Kruskal-Wallis Analyses Comparing Clusters on Husbands' Demographic and Premarital-Relationship Variables.

	Cluster 1: H&W Rising, W Higher in Absolute		Cluster 2: H & W Rising, with Similar Absolute		Cluster 3: H&W Rising, H Higher in Absolute		*p*-value (Kruskal-Wallis)	Significant Group Diff.
Variables	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)		
Premarital Relationship Variables								
First Committed to Relationship	41.36	28.82	17.82	18.48	49.00	30.17	.02	1 vs. 2
								2 vs. 3
First Felt Love for Partner	13.27	26.18	5.95	19.34	26.47	30.83	.04	2 vs. 3
First Certain of Marriage	45.00	30.45	19.22	18.80	52.44	31.72	.01	1 vs. 2
								2 vs. 3

Table 2, cont.

Kruskal-Wallis Analyses Comparing Clusters on Husbands' Demographic and Premarital-Relationship Variables.

	Cluster 1: H&W Rising, W Higher in Absolute		Cluster 2: H & W Rising, with Similar Absolute		Cluster 3: H&W Rising, H Higher in Absolute		*p*-value (Kruskal-Wallis)	Significant Group Diff.
Variables	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)		
Premarital Relationship Variables								
First Engaged	49.91	28.55	25.18	17.80	68.00	31.37	.01	1 vs. 2
								2 vs. 3

Table 3.

Kruskal-Wallis Analyses Comparing Clusters on Wives' Demographic and Premarital-Relationship Variables.

	Cluster 1: H&W Rising, W Higher in Absolute		Cluster 2: H & W Rising, with Similar Absolute		Cluster 3: H&W Rising, H Higher in Absolute		*p*-value (Kruskal-Wallis)	Significant Group Diff.
Variables	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)		
Demographic Variables								
Religiosity	3.09	27.27	2.65	23.59	2.88	27.03	.67	--
Premarital Relationship Variables								
Relationship Length	82.09	30.85	41.59	17.72	93.07	32.47	.003	1 vs. 2 2 vs. 3
Cohabitation Length	28.73	30.41	12.95	24.00	12.47	20.90	.22	--

Table 3, cont.

Kruskal-Wallis Analyses Comparing Clusters on Wives' Demographic and Premarital-Relationship Variables.

	Cluster 1: H&W Rising, W Higher in Absolute		Cluster 2: H & W Rising, with Similar Absolute		Cluster 3: H&W Rising, H Higher in Absolute		*p*-value (Kruskal-Wallis)	Significant Group Diff.
Variables	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)		
Premarital Relationship Variables								
Downturns during Dating	.02	27.18	.03	23.46	.03	27.28	.65	--
Acceleration (25% to 75%)	35.57	19.50	9.15	12.31	30.00	18.14	.15	--
First Sexual Intercourse	7.18	29.32	6.17	24.78	5.38	23.91	.60	--
First Committed to Relationship	42.82	28.18	19.82	17.93	59.13	31.43	.01	1 vs. 2
								2 vs. 3
First Felt Love for Partner	11.82	25.59	13.32	22.77	18.00	26.23	.73	--

Table 3, cont.

Kruskal-Wallis Analyses Comparing Clusters on Wives' Demographic and Premarital-Relationship Variables.

	Cluster 1: H&W Rising, W Higher in Absolute		Cluster 2: H & W Rising, with Similar Absolute		Cluster 3: H&W Rising, H Higher in Absolute		*p*-value (Kruskal -Wallis)	Significant Group Diff.
Variables	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)	Mean (Orig. Metric)	Mean (Ranks)		
Premarital Relationship Variables								
First Certain of Marriage	48.55	28.91	19.52	17.59	72.94	34.53	.001	2 vs. 3
First Engaged	74.64	33.23	20.86	15.91	69.47	30.70	.000	1 vs. 2
								2 vs. 3

Because race-ethnicity and cohabitation (yes/no) were each categorical, they were each

tested for differences between clusters using chi-square tests (Table 4). Results showed

that the clusters did not differ significantly on either race-ethnicity or cohabitation.

Hypothesis 1: Relationship Timeline

Hypothesis 1 stated that couples with more similar commitment trajectories

(Cluster 2) would have cohabitated for a shorter amount of time, experienced a lower rate

of downturns in commitment (marriage probability), accelerated more quickly (in fewer

months) from 25% to 75% chance of marriage, and had an overall shorter dating

relationship compared to couples with dissimilar commitment trajectories (Clusters 1 and

3). This hypothesis was partially supported. First, there was no significant difference

between clusters in regard to husbands' and wives' reported cohabitation length (Tables 2

and 3). Despite similarities or differences between commitment trajectories, couples did

not significantly differ on time spent cohabitating with their partner before marriage.

Neither did the clusters differ in men's or women's rate of downturns. For acceleration

from 25 to 75% chance of marriage, husbands' reports showed a significant overall

Kruskal-Wallis test ($p = .02$) and nearly significant differences between Cluster 1 and

Cluster 2 ($p = .06$) and between Cluster 1 and Cluster 3 ($p = .06$). Results indicated that

couples with similar commitment trajectories (Cluster 2) had the fastest (lowest original

mean in months) husbands' acceleration (7.92 months) and the lowest mean rank (10.73)

(Table 2). Between couples with husbands' higher absolute commitment levels (Cluster

3) and those with wives' higher absolute commitment levels (Cluster 1), Cluster 3 had a

lower original mean (28 months) and a lower mean rank (19.32) than did Cluster 1

(original mean = 29.43 months, mean rank = 20.57).

Table 4.

Chi-Square Analyses Comparing Clusters on Husbands' and Wives' Race/Ethnicity and Premarital Cohabitation (Yes/No)

Variables	Cluster 1: H&W Rising, W Higher in Absolute	Cluster 2: H&W Rising, with Similar Absolute	Cluster 3: H&W Rising, H Higher in Absolute	Test Statistic (df) & Significance
Demographics				
H Race				X^2 (4) = 3.95,
White	0 (0%)	3 (13%)	0 (0%)	*p* = .41
Hispanic	10 (90.9%)	19 (82.6%)	15 (93.8%)	
Other	1 (9.1%)	1 (4.3%)	1 (6.3%)	
W Race				X^2 (4) = 7.12,
White	0 (0%)	4 (17.4%)	0 (0%)	*p* = .13
Hispanic	11 (100%)	19 (82.6%)	15 (93.8%)	
Other	0 (0%)	0 (0%)	1 (6.3%)	
H Cohabitation				X^2 (2) = 2.63,
Yes	11 (100%)	21 (91.3%)	13 (81.2%)	*p* = .27
No	0 (0%)	2 (8.7%)	3 (18.8%)	
W Cohabitation	11 (100%)	22 (95.7%)	13 (81.2%)	X^2 (2) = 3.89, *p* = .14
Yes	0 (0%)	1 (4.3%)	3 (18.8%)	
No				

Results indicated that for husbands, reported relationship length significantly differed between Cluster 1 and Cluster 2 ($p = .03$) and between Cluster 2 and Cluster 3 ($p = .009$). Wives' reported relationship length also significantly differed between Cluster 1 and Cluster 2 ($p = .06$) and between Cluster 2 and Cluster 3 ($p = .006$) (Table 3). Couples with similar commitment trajectories (Cluster 2) had the shortest average relationship length (husbands' original mean = 39.70 months, wives' original mean = 41.59 months) and lowest mean rank (husbands' mean rank = 18, wives' mean rank = 17.72) (Table 3).

Hypothesis 2: Relationship Milestones

Hypothesis 2 stated that couples with more similar commitment trajectories (Cluster 2) would reach relationship milestones sooner than couples with dissimilar commitment trajectories (Clusters 1 and 3). The relationship milestones tested for this hypothesis are the number of months until first sexual intercourse, first feeling committed to the relationship, first falling in love with the partner, first feeling certain of wanting to marry the partner, and first getting engaged.

Regarding the husbands' reports of when couples reached relationship milestones, there was no significant difference between clusters for timing of first sexual intercourse with their partner (Table 2). However, there were significant cluster differences on husbands' reports of first feeling committed to the relationship, first feeling love for their partner, first feeling certain of wanting to marry the partner, and first getting engaged. Results indicated that for husbands' reports of first feeling committed to their relationship, there were significant differences between Cluster 2 and Cluster 3 ($p = .04$) (Table 2). Couples with similar commitment trajectories (Cluster 2) had the lowest original mean (17.82 months until feeling committed) and the lowest mean rank (18.48)

(Table 2). Husbands' reports of first feeling love towards their partner differed between Cluster 2 and Cluster 3 ($p = .04$), with couples with similar commitment trajectories (Cluster 2) reporting a lower original mean (5.95 months until feeling love) and a lower mean rank (19.34) compared to husbands with higher absolute commitment trajectories (Cluster 3, original mean = 26.47 months, mean rank = 30.83) (Table 2). Husbands' reports of first feeling certain of wanting to marry the partner significantly differed between Clusters 2 and 3 ($p = .02$) (Table 2). Of the three clusters, couples with similar commitment trajectories (Cluster 2) had the lowest original mean (19.22 months until certainty of wanting to marry) and lowest mean rank (18.80) compared to couples with husbands with higher commitment trajectories (Cluster 3) (Table 2). Finally, couples with similar commitment trajectories (Cluster 2) significantly differed from couples with dissimilar trajectories (Clusters 1 and 3) on the husbands' reports on when they first became engaged to their partner. Couples with similar commitment trajectories exhibited the shortest average time until engagement (25.18 months) and had the lowest mean rank (17.80) compared to couples with dissimilar commitment trajectories (Table 2).

Wives' Kruskal-Wallis results (Table 3) were similar to those for husbands. Wives' reports of when first sexual intercourse occurred did not significantly differ between clusters. Unlike the husbands' results, wives' clusters also did not significantly differ on wives' reports of first feeling in love with their partner. However, the clusters did significantly differ on wives' reports of first feeling committed to the relationship, first feeling certain of wanting to marry their partner, and first getting engaged to their partner (Table 3). Couples with similar commitment trajectories (Cluster 2) significantly differed from couples with dissimilar commitment trajectories (Clusters 1 and 3) ($p = .01$)

on wives' reports of first committing to the relationship (Table 3). Couples with similar commitment (marriage-probability) trajectories had the shortest mean durations until wives' first feeling commitment (19.82 months) and the lowest mean rank (17.93) compared to couples with dissimilar commitment trajectories (Table 3). Similar results were found for wives' reports of first feeling certain of wanting to marry their partner. Couples with similar commitment trajectories (Cluster 2) significantly differed from couples with dissimilar commitment trajectories ($p = .001$) (Table 3). Couples with similar commitment trajectories took the shortest amount of time to feel certain of marriage (original mean = 19.52 months) and had the lowest mean rank (17.59) compared to couples with dissimilar commitment trajectories (Table 3). Couples with similar commitment trajectories (Cluster 2) were also significantly ($p = .001$) sooner engaged (original mean = 20.86 months until engagement) and had the lowest mean rank (15.91) compared to couples with dissimilar commitment trajectories (Table 3).

Supplemental Analysis Testing

An additional goal of this study was to distinguish any differences between couples with a premarital birth and those with a marital birth. An independent samples t-test was run in SPSS for each of the previously tested continuous outcome variables. Results can be found in Table 5 and Table 6 below. Chi-square tests were used to test race/ethnicity; those results can be found in Table 7.

Demographic Variables

Results indicated that couples with a premarital vs. marital birth did not significantly differ on the following demographic variables: wives' race, wives' report of whether the couple cohabited (yes/no), and husbands' and wives' reported religiosity

(Tables 5-7). However, husbands' race did significantly differ between couples with a premarital vs. marital birth ($p = .02$), with the premarital-birth group having a higher proportion of Hispanic men. Also, the percentage of couples who cohabited before marriage was higher in those with a premarital birth (94.9%) than in those with a marital birth (72.7%), according to husbands' reports ($p = .03$).

Premarital Relationship Variables

Couples with a premarital birth and those with a marital birth differed significantly on both husbands' and wives' reported relationship length ($p = .001$) (Tables 5 and 6). Wives in couples with a marital birth reported shorter relationships ($M = 31.45$ months, $SD = 31.61$) than their counterparts with a premarital birth ($M = 76.57$, $SD = 51.03$), $t (26.7) = 3.57$, $p = .001$. For husbands' reports, couples with a marital birth reported shorter relationships ($M = 29.09$, $SD = 31.65$) than couples with a premarital birth ($M = 74.05$, $SD = 49.62$), $t (25.5) = 3.62$, $p = .001$.

Table 5.

T-Test Analyses Comparing Premarital Births vs. Marital Births on Husbands'
Demographic and Premarital-Relationship Variables.

	Couples with a Premarital Birth	Couples with a Marital Birth	p-value (T-Test)
Variables	Mean (Original Metric)	Mean (Original Metric)	
Demographic Variables			
Religiosity	3.03	2.27	.20
Premarital Relationship Variables			
Relationship Length	74.05	29.09	.001
Cohabitation Length	19.22	8.73	.11
Downturns during Dating	.04	.04	.89
Acceleration (25% to 75%)	21.96	11.33	.33
First Sexual Intercourse	5.54	4.00	.59
First Committed to Relationship	37.86	16.45	.07
First Felt Love for Partner	16.30	6.45	.02
First Certain of Marriage	41.55	15.55	.001
First Engaged	49.16	27.64	.13

Table 6.

T-Test Analyses Comparing Premarital Births vs. Marital Births on Wives' Demographic and Premarital-Relationship Variables.

Variables	Couples with a Premarital Birth Mean (Original Metric)	Couples with a Marital Birth Mean (Original Metric)	p-value (T-Test)
Demographic Variables			
Religiosity	2.97	2.27	.13
Premarital Relationship Variables			
Relationship Length	76.57	31.45	.001
Cohabitation Length	19.03	7.64	.15
Downturns during Dating	.03	.03	.74
Acceleration (25% to 75%)	26.20	7.17	.23
First Sexual Intercourse	6.44	5.09	.68
First Committed to Relationship	41.30	24.18	.17
First Felt Love for Partner	16.97	5.91	.01
First Certain of Marriage	47.90	25.64	.06
First Engaged	55.35	24.91	.04

Table 7.

Chi-Square Analyses Comparing Premarital Births vs. Marital Births on Husbands' and Wives' Race/Ethnicity

Variables	Couples with a Premarital Birth	Couples with a Marital Birth	Test Statistic (df) & Significance
Demographics			
H Race			$X^2 (2) = 7.927, p = .02$
White	1 (2.6%)	2 (18.2%)	
Hispanic	37	7 (63.6%)	
Other	(94.9%)	2 (18.2%)	
	1 (2.6%)		
W Race			$X^2 (2) = 2.21, p = .33$
White	2 (5.1%)	9 (81.8%)	
Hispanic	36	2 (18.2%)	
Other	(92.3%)	0 (0%)	
	1 (2.6%)		
H Cohabitation			$X^2 (1) = 4.68, p = .03$
Yes	37	8 (72.7%)	
No	(94.9%)	3 (27.3%)	
	2 (5.1%)		
W Cohabitation			$X^2 (1) = .02, p = .88$
Yes	36	10 (90.9%)	
No	(92.3%)	1 (9.1%)	
	3 (7.7%)		

Couples did not significantly differ on the time spent cohabitating before marriage (Tables 5 and 6). There was also no significant difference in the time it took for husbands and wives to accelerate from 25% chance of marriage to 75% chance of marriage across the premarital and marital-birth groups (Tables 5 and 6).

In regard to when couples met certain milestones, premarital- and marital-birth couples did not significantly differ in when they first had sexual intercourse (Tables 5 and 6). Partners within these two groups also did not significantly differ on when they first committed to the relationship (Tables 5 and 6). For first feeling love for their partner, husbands in the marital-birth group ($M = 6.45$ months, $SD = 5.07$) felt love towards their partner sooner than their counterparts with a premarital birth ($M = 16.30$, $SD = 22.91$), *t*

(44.5) = 2.42, *p* = .02. Similarly, wives in the marital-birth group (*M* = 5.91, *SD* = 6.50)

felt love for their partner sooner than did wives with a premarital birth (*M* = 16.97, *SD* =

22.30), *t* (45.99) = 2.66, *p* = .01. The husbands in couples with a premarital birth (*M* =

41.15 months, *SD* = 33.96) took significantly longer than did husbands in couples with a

marital birth (*M* = 15.55, *SD* = 13.50) to report first feeling certain of wanting to marry

their partner, *t* (42.2) = 3.77, *p* = .001. There was only a marginally significant difference,

t (25.7) = 1.99 *p* = .06, in the wives' comparison. Husbands in the two groups did not

significantly differ from each other on reports of when they were first engaged to their

partner. However, wives with a premarital birth (*M* = 55.35 months, *SD* = 43.07)

significantly differed from wives with a marital birth (*M* = 24.91, *SD* = 32.92) on their

reports of when they were first engaged to their partner *t* (46) = 2.13 *p* = .04.

CHAPTER VI

DISCUSSION

This chapter examines: (1) research findings, with discussion and interpretation; (2) support for the interpersonal process model; (3) nature of the findings relative to the pessimistic perspective of earlier research; (4) noteworthiness and implications of findings; (5) strengths and limitations of the study; (6) directions for future research; and (7) conclusions from this study.

Summary, Discussion, and Interpretation of the Research Findings

Grouping Couples Based on Commitment Trajectories

The first research question asked whether spouses and couples would exhibit sufficient variation in their commitment trajectories to support multiple clusters. In past studies, researchers have used a variety of methods to group individuals' and couples' commitment trajectory graphs. However, these studies were limited in that they only created clusters based on individuals' commitment trajectory graphs, rather than looking at both partners' commitment trajectory graphs together (Ogolsky et al., 2016; Surra & Huston, 1997). The present study took a different approach by grouping couples on both partners' commitment trajectories, with each couple linked together as one unit. The results from the k-means cluster analysis indicated that the premaritally pregnant couples could be divided into three separate clusters based on both partners' commitment trajectories.

Once clusters were determined, the next step was to characterize what types of commitment trajectories emerged in each cluster. Past studies found that characteristics of commitment trajectories, such as similarities and differences between partners, predict

courtship outcomes as well as later marital quality. Across all clusters, couples had a gradual rise in commitment before and during the pregnancy. However, one cluster was defined by couples whose partners had similar absolute commitment trajectories (Cluster 2), whereas the other two clusters were comprised of couples whose partners showed dissimilar absolute commitment trajectories. Cluster 1 was made up of couples with steadily increasing commitment, but with wives reporting higher overall commitment than their husbands. Cluster 3 consisted of couples in which both spouses had similar rising commitment trajectories, but in which husbands reported higher absolute commitment than their wives. Based on past research, it was hypothesized that couples with more dissimilar trajectories (Clusters 1 and 3) would experience more disagreement and uncertainty about the progression of their relationship, whereas couples with similar absolute commitment trajectories (Cluster 2) would be more intentional and in sync with one another on how they perceived their relationship to be progressing towards marriage. Based on these clusters, this study was able to assess how the similarity and dissimilarity expressed in the commitment trajectories were associated with the couples' relationship timeline and the timing of relationship milestones.

Demographic Variables

The second research question asked if couples with more similar commitment trajectories would differ from those with dissimilar trajectories regarding various demographic variables. It was anticipated that couples with more similar commitment trajectories could be disproportionately Hispanic/Latinx and be more religious, although these expectations were not strong enough to yield firm hypotheses. Past studies have found that couples who are Hispanic or come from religious backgrounds may feel more

social pressure to marry after experiencing a pregnancy (Biggs et al., 2010; Contreras et al., 1996; Delgado, 2000; Shammann, 1999). The only demographic variable on which clusters differed significantly was husbands' reported religiosity. The two dissimilar commitment clusters (Clusters 1 and 3) significantly differed from one another on husbands' reports of religiosity. Husbands with higher absolute commitment than their wives (Cluster 3) reported greater religiosity than did husbands whose wives showed higher absolute commitment (Cluster 1). Based on this finding, husbands with higher levels of religiosity may feel more pressure to marry due to their religious beliefs and consequently have higher levels of commitment after the discovery of a premarital pregnancy. These men may also have felt a greater sense of moral commitment (Johnson, 1999) to marry, although the study did not directly assess this form of commitment. The lack of difference between clusters on the other demographic variables could be due to the lack of diversity within the premarital pregnancy subsample. Within this subsample, couples did not differ on race/ethnicity (Table 4), leaving a homogenous set of respondents in this regard.

Relationship Timeline

The first hypothesis predicted that couples with similar commitment trajectories would have spent a shorter amount of time cohabitating with one another, accelerated more quickly from 25 to 75% chance of marriage, and overall have a shorter dating relationship than couples with dissimilar commitment trajectories. Results from previous studies have found that couples who cohabitate for longer duration are more likely to be unsure about the marriage, whereas couples with more similar trajectories move more swiftly from 25 to 75% chance of marriage (Surra & Hughes, 1997); however, a

premarital pregnancy could accelerate chance of marriage. Results showed that husbands in couples with similar commitment trajectories indeed took less time to accelerate from 25 to 75% chance of marriage relative to husbands with dissimilar commitment trajectories. There was no difference between wives. This study also found support for couples with similar commitment trajectories having overall shorter relationship lengths when compared to couples with dissimilar trajectories. The current study found no significant difference in cohabitation length across the clusters. One might speculate that couples with a premarital pregnancy who share similar commitment trajectories may have open and honest conversations about their relationships (Niehuis et al., 2016; Wilson & Huston, 2013) including about the pregnancy, sharing with one another how they feel about this major relationship event. As a result, commitment in these couples likely accelerates quickly, especially in the case of husbands' reports. Another conjecture is that courtships are likely shorter in premaritally pregnant couples than in those without a premarital pregnancy.

Relationship Milestones

Timing of milestone events during courtship, such as how soon partners fell in love with each other, when they first had sex, and how soon they first felt certain of wanting to marry one another, has an impact on marital quality (Huston, 1994; Niehuis et al., 2016; Wilson & Huston, 2013). This study tested whether couples with similar commitment trajectories during a premarital pregnancy reached relationship milestones sooner than did couples with dissimilar trajectories. Couples did not differ on timing on first sexual intercourse. By virtue of the present sample consisting entirely of couples with premarital pregnancies, all couples had sex before marriage. Interestingly, there was

not much range in different couples' timing of sex and, as previous national surveys have shown, many couples have sex within one month of meeting each other (Laumann et al., 2000). Couples with more similar commitment trajectories did commit to their relationship sooner and felt certain of marrying their partner sooner than couples with dissimilar commitment trajectories. One could speculate that couples with similar trajectories may have had more conversations about the progression of their relationship and been more likely to discuss their commitment to one another compared to couples with dissimilar trajectories. The latter, in contrast, likely would have had an unclear understanding about the progression or definition of their relationship. In regards to first feeling in love with their partner, wives did not differ across the clusters, but husbands in couples with more similar commitment trajectories reported first feeling in love with their partner sooner than did husbands in couples where husbands reported higher absolute commitment than their wives. Husbands with more similar commitment trajectories to their wives may have had more clarity on their relationship and may have felt more secure in their relationship, resulting in earlier feelings of love toward their partner. In contrast, husbands with higher commitment levels than their wives may have felt less secure in their relationship progression. Overall, these findings support previous literature that states couples with more similar commitment are more likely to reach relationship milestones sooner because of a shared understanding of how they believe their relationship and pregnancy should progress. Couples with dissimilar commitment trajectories took more time to reach relationship milestones, perhaps because of a relative lack of understanding about their feeling about the overall relationship and pregnancy.

Supplemental Analyses: Premarital Versus Marital Births

Existing studies on premarital pregnancy have not distinguished the effects, among premaritally pregnant couples, of birth timing. In other words, do premarital and marital *births* relate differentially to couples' relationship trajectories and outcomes. As a supplemental analysis, therefore, this study compared premarital- and marital-birth couples across all the test variables to provide context to these findings. Across demographic variables, couples with a premarital birth and those with a marital birth did not differ on any variables, except husbands' race. Husbands with a premarital birth were more likely to be Hispanic. However, this finding should be taken with caution as there were relatively few non-Hispanic participants in the pregnancy subsample. Couples with a marital birth had significantly shorter relationship lengths than those with a premarital birth. They also were more likely to reach relationship milestones, such as first feeling love for their partner, first feeling certain of marriage, and first engaged sooner than couples with a premarital birth. Speculatively, the premarital pregnancy may have served as a catalyst towards marriage for couples with a marital birth. In other words, some couples may have wanted, for religious or personal reasons, to ensure that they were married before the birth of the baby (i.e., a marital birth) and so got married sooner than they had originally planned to.

Going back to the original basis for comparing premarital- and marital-birth groups, namely, to provide context for interpreting other findings, it is apparent that marital births were associated with faster movement to marriage and faster occurrence of some of the relationship milestones. Hence, in viewing the findings linking spouses' greater commitment-trajectory similarity (Cluster 2) to faster relationship progression and

milestone attainment, one should consider the possibility that some couples' specific desire for a marital birth may have influenced these results to some extent.

Absolute Commitment Levels and Pathways to Marriage

As seen in the commitment-trajectory clusters (Figure 1), couples with more similar trajectories (Cluster 2) had plateaued at around 90% committed to marriage, suggesting that the couples were planning to marry before or soon after the birth of their child. In contrast, couples with dissimilar commitment trajectories (Cluster 1 and Cluster 3) were not as highly committed to marriage towards the end of the pregnancy (an exception being wives in Cluster 1, who averaged 80% marriage probability near the end of the pregnancy). The lower absolute commitment levels in Clusters 1 and 3, likely led to their longer relationship durations. This combination of low commitment and longer relationship duration appears most dramatically in Cluster 3 couples (husbands with higher absolute commitment than that of their wives). Within that cluster, wives were only about 20% committed to marriage by the end of their pregnancy whereas the husbands were only about 40% committed (Figure 1, Graph 3). Along with their low commitment, partners in Cluster 3 reported average relationship lengths of about 7.5 years (around 90 months, Table 2 & Table 3).

Given that all couples in the study eventually married, what were the roads to marriage like for those who reported low marriage probabilities at the end of their pregnancies (i.e., Cluster 3)? A comprehensive examination of partners' reasons for changes in their marriage probabilities during courtship (obtained during the courtship-graph phase of the study) is beyond the scope of this thesis. However, some brief, informal observations are offered. Two common patterns in Cluster 3 were apparent. One

is that some couples' marriage probabilities remained low before, during, and after the pregnancy (sometimes for many months), with some impetus other than the pregnancy and childbirth raising their commitment to marriage en route to a wedding. The other common pattern involved couples showing a modest rise in marriage probability around the time of pregnancy or childbirth, but marriage probabilities then dropping again (in one couple, because the woman felt the man was maintaining his party lifestyle after the birth of their child). In these couples, marriage probabilities typically fluctuated up and down for several months. Future studies with larger samples would allow for a more thorough typology of couples' attitudes and behaviors during prolonged transitions to marriage.

Support for the Interpersonal Process Model

The clusters and commitment trajectories within this study were consistent with the five core principles of one form of interpersonal process model, namely that known as the gradual differentiation model (Surra, 1990). The first principle, that alternating patterns of growth and decline in commitment typically are evident, received partial support. Specifically, wives in Cluster 3 displayed a small downturn at $T_{Minus3-1}$ (1-3 months before pregnancy discovery), but then an upturn at T_0-T_{Plus2} (pregnancy discovery). Supporting the second principle, all clusters displayed gradual increases in commitment (on average) as they moved through the pregnancy, with no abrupt increases or decreases. The third principle, that pathways typically differ across couples, received strong support, as there was sufficient variability in pathways for different clusters to emerge (this finding also answers Research Question 1 in the affirmative). The fourth principle, that new features emerge over time in conjunction with couples' commitment

trajectories, also received support. Attainment of relationship milestones, including first feeling love for the partner and first feeling certain of marriage (which differed between clusters in husbands and/or wives) constituted these new features. Finally, some of the increases in average marriage probability specifically between $T_{Minus3-1}$ and T_0-T_{Plus2} in Figure 1 (i.e., from right before pregnancy discovery to time of discovery) suggest that pregnancy discovery may have been an outside influence on changes in the trajectories. For example, husbands in Cluster 2 showed average marriage probabilities of roughly 60% and 65% percent before pregnancy discovery and then rose to 80% upon pregnancy discovery. These modest rises are consistent with pregnancy being an inflection point for some couples in changing their marriage probabilities, thus partially supporting the fifth principle. Within-cluster data were averaged in Figure 1, leaving open the possibility that individual husbands' and wives' trajectory curves would have shown even more variability between couples (third principle). However, techniques for examining individual trajectories such as growth curves were neither feasible (due to the small sample size) nor within the scope of this thesis. That there was enough variation in partners' commitment changes at the discovery of the pregnancy until birth or marriage to yield three clusters and that at least two of the three clusters for at least one sex differed signifcanty on many of covariates, supports the principles of the model. Again, the clusters also differed in when they reached the milestones on average, indicating that there is diversity in this regard and this diversity is meaningfully related to commitment development.

Nature of the Findings Relative to Pessimistic Perspective of Earlier Research

Some literature on premarital and nonmarital childbearing has reported that couples with a premarital/nonmarital pregnancy are more likely to experience decreases in relationship satisfaction, lower levels in commitment, and a higher risk of relationship dissolution over time (Adamsons, 2013; Akçabozan et al., 2016; Niehuis et al., 2006; O'Reilly Treter et al., 2021). The present, retrospective study found that the discovery of a premarital pregnancy was associated with overall increases in commitment to marriage across all couples. This, of course, comes as no surprise, given that all couples were married when they participated in the study. Couples with similar commitment trajectories (Cluster 2) had shorter relationships and were almost 100% committed to marriage by the end of the pregnancy, raising the *possibility* that pregnancy may have led to increases in commitment to marriage and relationship progression. The fact that all couples in the study eventually married limits the generalizability of these conclusions, however. A hypothetical sample of pre- and nonmaritally pregnant couples, including some who did and who did not eventually marry, would provide a better test of how frequently these pregnancies presaged marriage.

Noteworthiness and Implications of Findings

Previous literature surrounding premarital pregnancies has focused on the ways parents' romantic relationships tend to fail and how a premarital pregnancy can create disadvantages for both the parents and the child. The present study revealed three clusters of couples based on their commitment trajectories. In one, the two partners exhibited very similar trajectories, had the highest overall commitment levels at the beginning, middle, and end of the observation period, and progressed overall at twice the pace of the other

two clusters. Because couples in all clusters experienced a premarital pregnancy, the main characteristics on which the clusters differed were their trajectory similarity and average commitment levels. Given Wilson and Huston's (2013) finding linking courtship graph similarity to long-term marital stability (vs. divorce) and Niehuis et al.'s (2016) finding that relatively fast-moving courtships (although not too fast) set couples up for successful marriages, one could speculate that the present couples with similar commitment trajectories (Cluster 2) might be headed toward a happier and possibly more stable future than the other two groups. In other words, the research would suggest that perhaps the outlook for premaritally pregnant couples is not equally bleak for all.

More speculatively, other factors such as the couples' shared understanding of their commitment toward one another and their relationship may have more of an effect on the relationship. Niehuis et al. (2018) have shown that stressful events that prevent romantic partners from spending time together (e.g., long work hours) diminished their shared understanding. Programs designed for couples who are at risk of relationship dissolution, including those with a premarital/nonmarital pregnancy, should focus on helping parents reach a shared understanding of their relationship and building commitment towards one another, which could result in better relationship outcomes. Overall, this study adds to the literature on what factors could potentially lead to better relationship outcomes for couples with a premarital pregnancy.

Strengths and Limitations

This study had several strengths. First, it provides new findings on relationship functioning during and after premarital pregnancy. This study was able to track month-by-month changes in commitment before and during a pregnancy, which is unique to

studies of couples with a premarital pregnancy. Past research did not specifically look at the premaritally pregnant couples' relationship progression. This study filled this gap in the literature by assessing both partners' commitment trajectories and combining those trajectories to create a single couple unit, rather than analyzing partners separately. In many ways, this study offers new information on relationship functioning during and after premarital pregnancy and provides a new method for analyzing changes throughout a romantic relationship in couples with a premarital pregnancy.

By assessing Hispanic couples with a premarital pregnancy, this research was able to add to the growing body of literature on how couples of different racial and ethnic backgrounds progress in their relationship after the discovery of a premarital pregnancy. Past literature has stated that nonmarital childbearing Hispanic couples are moving away from marriage and toward cohabitation, because the latter has become a more socially acceptable setting for family formation (Ryan et al., 2010). This study also adds to the literature on Hispanic couples' relationship trajectories and their commitment toward marriage, which researchers have not examined in the current literature as much as cohabiting and coparenting Hispanic couples.

The present study also had limitations. The sample was small (especially when narrowed to couples with a premarital pregnancy) and not necessarily representative of married couples with a premarital pregnancy living in Lubbock County or of Hispanic/Latinx couples therein. All couples were already married, so the study could not examine couples for whom a premarital pregnancy led to relationship break-up or long-term continuation of the relationship without getting married. Also, because all couples in the present study had a premarital pregnancy, there is no basis to link the pregnancies *per*

se to marital outcomes. Rather, one can only say that, *in the context of premarital pregnancy*, other variables (such as partners' similarity or difference in commitment trajectories) were associated with marital outcomes. In addition, this limited sample could have affected the significance of results, especially regarding demographic variables, through lack of variance (e.g., a race-ethnicity breakdown of roughly 90% Hispanic). Future research studying premaritally pregnant couples should attempt to collect data from a larger and more diverse sample.

Restriction of the sample to married couples likely also skewed relationship-related measures (e.g., acceleration, downturns) toward the favorable end of the distribution, as poorly functioning couples likely would not have married. To the extent measures were skewed toward the favorable end, this would have led to a "restriction of the range" problem, weakening correlations involving the skewed variables. However, the use of nonparametric tests addresses this issue. Future research should explore couples with a premarital pregnancy who end their relationship or remain together long-term without marrying, because these couples would have relationship-quality measures that skew towards the low end of the distribution.

Other limitations concerned measurement and use of secondary data. Measurement was entirely self-report, which is subject to biases from participants trying to present themselves favorably and to memory inaccuracies in reporting the timing of courtship events (most centrally, the pregnancy). On the other hand, participants' subjective perceptions of certain relationship events may be most psychologically meaningful to them. This project is a secondary data analysis based on a dataset that was already collected by the time the author had entered graduate school. Consequently, the

author lacked the ability to suggest the inclusion of particular measures, such as premarital parenthood, potential differences in parenting styles, and whether the premarital pregnancy had a direct influence on the couples' decision to marry.

This study also adds to our understanding of how Hispanic/Latinx couples, who make up 51.8% of the premarital pregnancy population (Martin et al., 2019) and are more likely to marry their partner after a premarital pregnancy, progress in their relationship. The present sample similarly showed a high percentage of the premarital pregnancies to be in Hispanic couples. These figures should be viewed with caution, however, for a few reasons. As the present sample included only married couples, it is possible that premaritally pregnant couples who broke up or remained long-term as unmarried couples could be disproportionately non-Hispanic. Also, the conservative, religious location of the study could have led to a lower percentage of White couples having a premarital pregnancy than would have been the case in other cities. In many ways, this study offers new information on relationship progression and functioning in the context of premarital pregnancy and provides a new method for analyzing changes throughout a romantic relationship, specifically for couples with a premarital pregnancy.

Future Research Directions

Future research could take a qualitative approach and interview premaritally pregnant couples on their relationship throughout their pregnancy, as well as on factors that led to marriage or the dissolution of their relationship. The present study was unable to specify exactly what factors drove couples towards marriage after the discovery of their premarital pregnancy. A qualitative approach could directly ask couples what factors led them to continue or dissolve their relationship after the discovery of the

pregnancy. Studies in the future should also collect data on a large and more diverse sample since the sample of the present study was fairly homogenous. As noted above, future research could also study couples with a premarital pregnancy who end their relationship because the couples within this study were married to the partner they experienced their premarital pregnancy with. In general, future research would benefit from a diverse sample of premaritally pregnant couples.

Conclusions

This study added to the literature on premarital pregnancy in the context of a romantic relationship by assessing both partners' changes in commitment to marry before and during the pregnancy and placing these commitment trajectories in context with other relationship variables. Several variables appear to be associated with premaritally pregnant couples' commitment trajectories and whether the couple married before or after the birth of their child. Couples with similar commitment trajectories and couples with a marital birth reached relationship milestones sooner. The existing literature linking premarital pregnancy to romantic relationship functioning often focuses on the negative outcomes of nonmarital childbearing relationships. To generate new data and a more current understanding of premarital pregnancies, relationship researchers should focus on understanding how couples conceptualize their relationship within the context of their premarital pregnancy and assess how it affects later relationship outcomes.

In the big picture, the present findings are a beginning of a longer journey. More research will need to be done to incorporate additional elements (e.g., couples' feelings about the pregnancy at the time of its discovery; the dynamics of couples who stay together for prolonged periods of time with low marriage probabilities) to the present set

of issues. To the extent that future studies with larger, and more diverse samples (in terms of race-ethnicity and marital statuses) replicated and extended the present findings, it would strengthen the case for the practical recommendations offered above.

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APPENDICES

Appendix A

COUPLE ID# _____

Gender_____

<u>Relationship Questionnaire</u>

Here we would like to get some information from you on your personal background. Please answer the

following questions as completely and accurately as you can. Thank you!

1.   How old are you? _____ **Years**

2.   What is your gender? **Male** _____   **Female** _____

3.   How old were you when you got married to your current spouse? _____ **Years**

4.   How long had you been dating your spouse before you got married?

_____ **Years** _____ **Months**

5.   What was your wedding date? **(MM/DD/YY)** _____

6.   Do you have any children from a previous marriage or relationship? **Yes** _____**No**_____

7.   Do you have any children with your current spouse? **Yes** _____ **No**_____

8.   Have you ever been divorced?

_____ **Never**

_____ **Once**

_____ **Twice**

_____ **Three times or more**

9.   What is your religious denomination?

_____ **Baptist or other Protestant (e.g., Methodist, Lutheran, Episcopalian)**

_____ **Buddhist**

_____ **Catholic**

_____ **Hindu**

_____ **Jewish**

_____ **Latter-day Saint (Mormon)**

_____ **Muslim**

_____ **No formal religious affiliation**

_____ **Other** (**please explain** _____)

10.   On a scale from 0 (not at all religious) to 5 (very religious), how religious are you?

Not at all religious   0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5   Very religious

11.   What is your race/ethnicity? Please indicate which of the following groups describes you best.

_____ **Caucasian/White/Non-Hispanic**

_____ **African American/Black**

_____ **Hispanic/Latino**

_____ **Native American/American Indian or Alaska Native**

_____ **Asian/Asian American**

_____ **Multiracial**

_____ **Other** (**please explain** _____)

Appendix B

Relationship History Questionnaire

COUPLE ID# _____

Gender_____

Relationship History

1.   How old were you when you first started dating? _____ **Years**

4.   With how many people, other than your spouse, did you live together (cohabit)? _____

5.   How old were you when you first started dating your spouse? _____ **Years**

6.   How old were you when you started dating your spouse exclusively? _____ **Years**

7.   Did you cohabit (live together) with your spouse before you married? **Yes**_____ **No** _____

         a.   If so, how long did you cohabit? **Months** _____ **Years**_____

8.   Have you had sexual intercourse with your spouse before marriage? **Yes** _____ **No** _____

9.   How long had you been dating your spouse before you got married?

_____ **Years** _____ **Months**

Appendix C

Commitment Chart (Probability of Marriage)
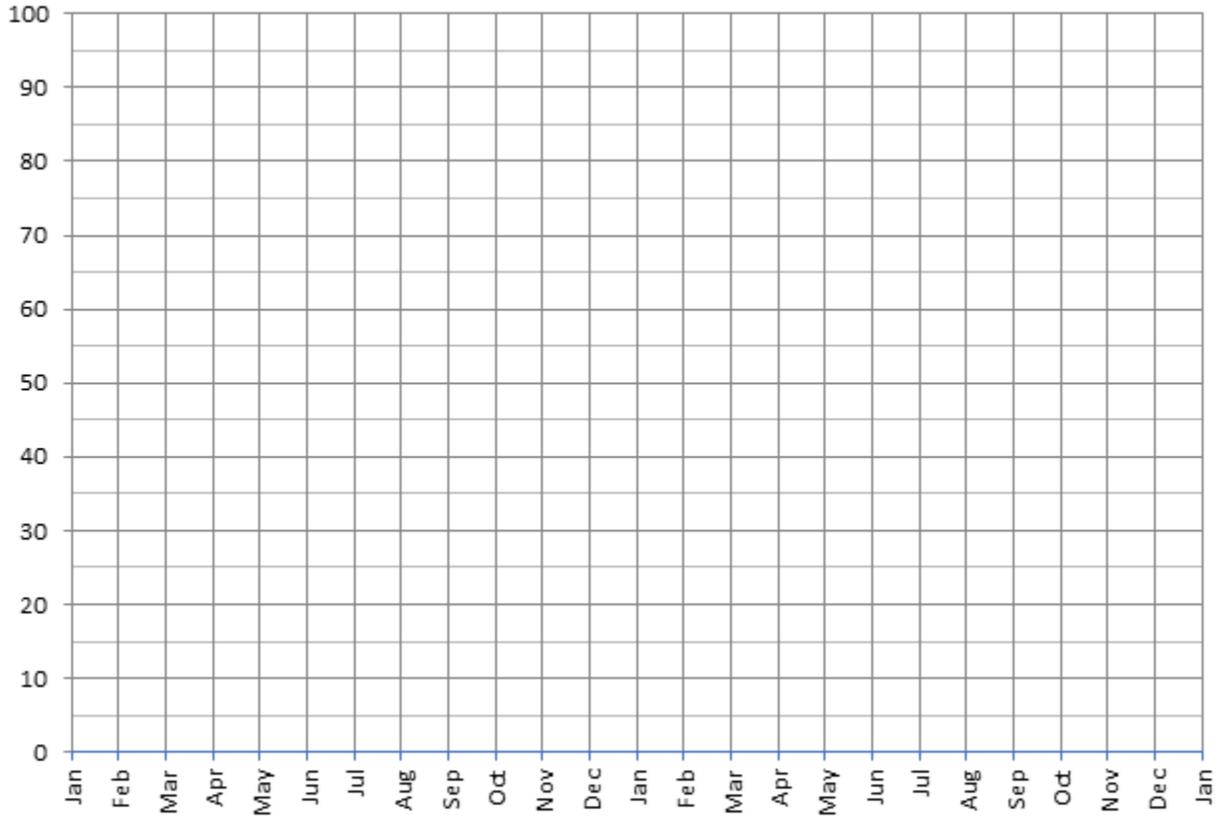
Year: _____   Year: _____

Date of the First Date: _____

Date of the Wedding: _____

Appendix D

Relationship Events Chart

	Year: _____												Year: _____											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Casually Dating																								
Regularly Dating																								
Couple																								
Committed																								
Not Involved																								
Physical Separation																								
Dating Others																								
Living Together																								
First Intercourse																								
Regular Intercourse																								
Possible Pregnancies																								
Actual Pregnancies																								
Met Partner's Parents																								
Partner Met Your Parents																								
Public Engagement																								
Love Partner																								
Partner Loves You																								
Certain About Marriage																								
Partner Certain About Marriage																								
First Fight																								

Date of the First Date: _____

Date of the Wedding: _____