Family Formation Decisions and a Test of the Marital Expectations Hypothesis

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Abstract

This study tests the marital expectations hypothesis, a qualitatively-derived theory that posits that low-income couples delay marriage because of its perceived economic requirements, but do not have the same standards for childbearing. Using data from the Fragile Families and Child Wellbeing Survey, a study of new unmarried parents, I find that positive changes in couples' incomes were associated with a 20% increase in the odds of marriage. Marriage odds also doubled if the couple became homeowners. Similar effects on the likelihood of having an additional child were not observed. Relationship quality did not mediate the associations between income, home ownership, and marriage. The decision to marry appears to be more sensitive to changes in income than does the decision to have an additional child.

One of the most profound demographic shifts observed over the past 50 years is the seeming separation between marriage and fertility decisions, particularly for those with less education. Data from the Current Population Survey indicate that for high school dropouts who were born between 1940 and 1944, approximately 82% married and had their first child by the age of 25. For high school dropouts born twenty years later, 78% still had their first child by 25, but only 63% had married.

These increasing rates of non-marital fertility challenge traditional economic models of the family, which presuppose that marriage leads to childbearing, and were not designed to address fertility outside of marriage. As an alternative to these traditional economic models, an emerging sociocultural view of marriage and the family suggests that cultural attitudes toward the perceived economic prerequisites for marriage, in combination with low economic resources, determine marriage and fertility choices. A series of qualitative studies has found that respondents delayed marriage because they believed their economic circumstances dictated that they were not ready for the institution (Edin & Kefalas, 2005; Edin, Kefalas, & Reed, 2004; Smock, Manning, & Porter, 2005). The same economic requirements do not apply to childbearing, as that is viewed as a more normative part of the life course and does not require a certain level of financial well-being. This thesis implies that couples' marital behavior should be sensitive to changes in economic well-being, but that such changes should have little effect on fertility.

However, the evidence for this thesis arises from largely cross-sectional qualitative studies, and no study to date has quantitatively considered marriage and fertility decisions for the same population. To address this limitation, I use data from the Fragile Families and Child Wellbeing Study to investigate how couples' incomes, assets, and relationship quality affect

marital and fertility behavior. In addition to being the first quantitative study to investigate if the same couples apply similar economic standards to subsequent childbearing as they do to marriage, this study makes two contributions to the literature. First, unlike the majority of studies which have used level models to correlate marriage with income, this study employs longitudinal data to estimate change models. These models more accurately test if couples respond to gains in income, as they estimate the association between changes in income and marriage or fertility, controlling for prior levels of income. Second, I rely on couple-level indicators of income, rather than on individual measures of male or female earnings. This is consistent with previous work that has demonstrated that marriage is a joint decision, and does not rest solely on the economic well-being of one partner or the other (Gibson-Davis, Edin, & McLanahan, 2005).

Background

As reviewed by Ellwood and Jencks (2004) and others (Cherlin, 2004; Edin & Kefalas, 2005), what are termed traditional economic theories of marriage formation, such as Becker's (1981) work on specialization within marriage, Wilson's (Wilson, 1987; Wilson & Neckerman, 1986) "marriageable man" hypothesis, and Oppenheimer's (Oppenheimer, 2003; Oppenheimer, Kalmijn, & Lim, 1997) career maturity thesis, by themselves cannot explain today's complex patterns of marriage and fertility. Becker (1981) posited that people engage in a marriage contract insofar as they can benefit from each other's specializations, as is the case when men's wages exceed women's, or if women have a stronger preference for homemaking. Marriage rates will fall if the gains to specialization are reduced, as is the case when men and women receive equal compensation in the marketplace. According to Wilson and colleagues (Wilson, 1987; Wilson & Neckerman, 1986), destructive social forces operating within urban African American

communities (e.g., lack of economic opportunities, weak labor market ties, high rates of crime and imprisonment) have led to a dearth of men who are economically attractive to potential partners. Oppenheimer (Oppenheimer, 1997, 2003; Oppenheimer et al., 1997) explained the rise in cohabitation and the decline in marriage rates as a function of how well young adults could establish themselves in the marketplace, and believed that cohabitation served as an "adaptive function" for young adults whose careers were not fully established.

The biggest limitation to these economic models is that contract-based views of marriage do not address the rise of fertility outside of marriage. The models, either implicitly or explicitly, presuppose that childbearing will follow marriage, but the discrepancy between time at first birth and time at first marriage for lower-class individuals indicates that the pattern does not hold for many couples. Instead, individuals appear to regard marriage and childbearing as two different decisions, governed by different factors (Edin & Kefalas, 2005). Insofar as traditional economic theories do not distinguish between marriage and fertility, then they are inadequate to explain contemporary patterns of family formation.

As an alternative to these views, a sociocultural explanation of marriage – which I shall refer to as the "marital expectations hypothesis" – suggests that cultural attitudes toward the perceived economic prerequisites for marriage, in combination with low economic resources, act as a barrier to marriage. A series of qualitative studies has found that poor and lower middle class couples have high expectations of marriage. First, viewing marriage as the "ultimate relationship" and wishing to avoid divorce, couples do not want to marry unless they are certain that their relationship will endure for a lifetime (Edin and Kefalas 2005; Gibson-Davis, Edin, and McLanahan 2005; Reed 2003). The quality of the relationship and the fear of divorce go hand-in-

hand, as couples want guarantees that this is the right relationship, one that will not be sullied by divorce.

Second, these studies indicate that poor and lower middle class couples do not wish to marry unless certain financial standards have been met (Edin & Kefalas, 2005; Edin et al., 2004; Smock et al., 2005). For example, studies from the 75 couples participating in the Time, Love and Cash Among Couples with Children (TLC3) project has shown that couples believe that marriage requires steady incomes, significant assets, and the ability to pay for a middle-class-type wedding (Gibson-Davis et al., 2005). Longitudinal analyses with the TLC3 couples indicate that these beliefs remain remarkably durable, even if couples make little to no progress in achieving their financial goals (Gibson-Davis, forthcoming). Edin and Kefalas (2005) interviewed 162 low-income mothers in Philadelphia and Camden, NJ, and found that women viewed marriage (to a suitable man) as a marker of middle class life and an indication of social respectability. To these poor women, marriage was a signal that they had escaped their lower class origins. These studies support the conclusion that marriage is no longer viewed as a natural part of the life course experience, but rather a reward given to those who have met its exacting standards - a "luxury good" (Furstenberg, 2003, p. 36) available to a select few (see also Smock et al. 2005).

Edin and Kefalas also suggest that low-income women become parents at a relatively early age because childrearing provides meaning to their lives. According to survey data, low-income adults, as compared to those of a higher socioeconomic status, are more likely to believe that having a child is a fulfilling experience (Sayer, Wright, & Edin, 2004). The women that Edin and Kefalas interviewed confirmed this sentiment, as they discussed how mothering was an active demonstration of their worth. At the same time, the likelihood of these women being able

to take advantage of the economic opportunities available to non-poor women are slim, and evidence has found that women from disadvantaged backgrounds face bleak economic prospects, regardless of the fertility choices made early in life (Furstenberg, 2003; Geronimus & Korenman, 1992; Maynard, 1997).

The marital expectations hypothesis has much to recommend it. It can plausibly explain the separation between marriage and fertility decisions among those of low socioeconomic status by arguing that marriage is an aspiration, while childbearing is an accepted (and expected) part of young adulthood (Anderson, 1991; Edin & Kefalas, 2005). This theory also recognizes the importance of relationship quality in marriage decisions (Carlson, McLanahan, & England, 2004), but it emphasizes that both economics and a high quality relationship are necessary for marriage. Additionally, it incorporates the role that current norms about marriage and fertility play in determining household formation decisions. Couples can delay marriage because it is no longer viewed by society as the only socially acceptable context for bearing and raising children (Axinn & Thornton, 2000; Thornton & Young-DeMarco, 2001). Finally, it is consistent with empirical studies that have found that male earnings are an important determinant of marriage behavior (Brown, 2000; Carlson et al., 2004; Clarkberg, 1999; Oppenheimer, 2003; Sweeney, 2002; Xie, Raymo, Goyette, & Thornton, 2003), but also suggests that women with low wages do not marry because they feel they are not themselves financially prepared for it (Clarkberg, 1999; Lichter, McLaughlin, Kephart, & Landry, 1992; Sweeney, 2002). However, rather than emphasizing the level of male or female earnings, this thesis asserts that couple-level indicators of global economic well-being (such as income) will be a better predictor of marital behavior than individual measures of earnings.

This theory does not represent a wholesale rejection of past theories of marital behavior, but does call into question the assumption that marital and fertility behavior are governed by the same set of principals. For example, consistent with Wilson's marriageable man hypothesis (Wilson, 1987; Wilson & Neckerman, 1986), a lack of suitable male partners should still drive down the marriage rate (Harknett & McLanahan, 2004), but it will not necessarily deter couples from cohabiting or having children together. It is also consonant with Oppenheimer's contention (Oppenheimer, 1997; Oppenheimer et al., 1997) that couples delay marriage until they have established themselves financially, but again, this delay does not mean that they will forgo parenthood.

The marital expectations theory leads to three hypotheses. First, among the same population, changes in income will have a positive correlation with marriage, but should not affect childbearing. While previous studies have shown that income is positively associated with marriage (Clarkberg, 1999) and negatively associated with childbearing (Mott, 1986), no study has used the same set of couples to investigate if income differentially affects marriage and fertility. The marital expectations theory requires that both marriage and fertility outcomes be observed, however, as it posits that couples are more sensitive to changes in income in determining marriage than in determining childbearing.

Second, in addition to income, assets, particularly home ownership, should increase the likelihood of marriage, but have no effect on childbearing. There is a difficulty in assessing the association between home ownership and marriage, as it is potentially endogenous. Even though home ownership in this study is assessed temporally prior to the assessment of marriage, it is nevertheless possible that in planning to get married, couples respond by buying a house. Qualitative studies, though, suggest that house buying is considered a prerequisite for marriage,

not the other way around (Edin et al., 2004). And even if house buying was endogenous to marriage, this association would still be consistent with the marital expectations hypothesis, as it would demonstrate that house buying and marriage are associated with each other, and that couples view house buying as a component of the marital process.

Third, under the marital expectations hypothesis, relationship quality and income should act independently of each other. The qualitative evidence suggests that couples are unwilling to compromise on either their emotional or economic standards for marriage; therefore, neither high quality relationships nor high levels of income should be sufficient conditions for marriage. Rather, each is a necessary component that together increases the likelihood that a couple will wed.

Data and Methods

The Fragile Families and Child Wellbeing Survey is a large, longitudinal birth cohort study designed to provide information about the experiences of new parents. Nearly two-thirds of the sample was unmarried, as a primary purpose of Fragile Families was to collect data on the dynamics and financial well-being of so-called "fragile families". Interviewing both mothers and fathers shortly after the birth of a shared child, couples were surveyed in 75 hospitals, 16 cities, and 15 states around the country. Hospitals were chosen to approximate birth patterns within each city, and cities were chosen as to provide a range of labor market conditions and public assistance climates (for additional details on sample selection, see Reichman, Teitler, Garfinkel, & McLanahan, 2001).

Data were first gathered from 4,898 mothers and 3,830 father shortly after the mother had given birth, and subsequent interviews were conducted when the child was approximately 1, 3,

and 5 years of age. During the first round interviews, mothers were interviewed in person in the hospital, and the fathers were interviewed either in the hospital or wherever they could be found. Subsequent interviews were conducted over the telephone and were conducted in both English and Spanish. First round interviews were conducted between February of 1998 and September of 2000.

Fragile Families had very few eligibility requirements, although in some hospitals, it was not feasible to interview teenage mothers below the age of 18. Response rates for both married and unmarried mothers exceeded 80% in all three rounds; response rates for married fathers were likewise above 80%. Response rates for unmarried fathers were somewhat lower, at 75% in the first round, 70% for the second round, and 68% in the third round.

The sample used here consists of the 3,710 parents who were unmarried at baseline (the round 1 surveys) and who were reinterviewed when the child was 1 (round 2) and 3 years old (round 3) (round 5 data is not yet publicly available). Cases were dropped if the mother's marital and fertility status was not available for both rounds 2 and 3 (n = 756), for a total sample size of 2,954 (80% of unmarried couples at baseline). Mother's marital status, rather than that of father's, was used to preserve sample size, as has been done in other studies of Fragile Families (see Carlson et al. 2004, and Harknett and McLanahan 2005).

To account for missing data, I used multiple imputation, which provides more consistent and efficient estimates than do other techniques of dealing with missing data (Allison, 2002). In this procedure, switching regression, an iterative multivariable regression technique, is used to impute values for missing cases. This step is repeated *n* number of times, producing *n* number of data sets (the minimum number of replications is five (ref), the number of replications used here). Analyses are then performed on each data set. These estimates are combined, and the

standard errors are adjusted for the multiple imputation procedure (for more information on multiple imputation, see Little and Rubin, 2002). Most maternal variables were missing in 3% of the cases or less; exceptions include household income (discussed in more detail below) and reports of relationship quality at round 2 (15%). Rates of missing data were higher for fathers, as 12 paternally reported variables were missing data in 10% or more of cases. Father reports of relationship quality at round 2 had the highest rates of missing data (26%). *Check rates of missing data.*

Method

A traditional logistic regression model which associates income collected at one round (in this case, round 2) with marriage at a subsequent round (round 3) might look like equation 1:

$$\Pr(\text{marriage}_{i3rd} = 1 \mid \underline{X}_i) = \beta_0 + \beta_1 \text{INC}_{i2nd} + \gamma_1 \text{COUPLE}_i + e_{it} \qquad \text{(equation 1)}$$

where the probability of the ith couple getting married at round 3 (marriage$_{i3rd}$) is a function of income (INC$_{i2nd}$) at round 2 and other couple characteristics (COUPLE$_i$) that might influence marriage. Estimates of β_1 are unbiased only if all relevant characteristics related to income and marriage have been correctly measured and included; otherwise, omitted variable bias will produce inefficient estimates for β_1.

To minimize the likelihood of bias, I take advantage of the multiple rounds of data available in Fragile Families and control for income measured prior to round 2, as in equation 2:

$$\Pr(\text{marriage}_{i3rd} = 1 \mid \underline{X}_i) = \beta_0 + \beta_1 \text{INC}_{i2nd} + \beta_2 \text{INC}_{i1st} + \gamma_1 \text{COUPLE}_i + e_{it} \qquad \text{(equation 2)}$$

Equation 2 has two advantages over equation 1 (Duncan et al., 2006). First, because it controls for income measured prior to round 2, it reduces the likelihood of bias in β_1. Second, it can be

rewritten as a change model, in which changes in income are associated with marriage at round 3, controlling for prior levels of income:

$$\Pr(\text{marriage}_{i3rd} = 1 \mid X_i) = \delta_0 + \delta_1 \Delta INC_i + \delta_2 INC_{i1st} + \gamma FAM_i + \eta_{it} \qquad \text{(equation 3)}$$

Algebraically, δ_1 in equation 3 is equivalent to β_1 in equation 2; both have the interpretation of testing whether increases in income that occurred prior to round 2 influence marriage behavior at round 3. This model is preferred over equation 1, where the β_1 coefficient only measures if the level of income (but not necessarily its increase) influences marital behavior.

Variables

Dependent Variables

The first outcome variable of interest was if the couple had married, taken from the mother's report of her relationship with the Fragile Families father. As couples could marry either by the second round or by the third round, separate models were conducted predicting marriage at round 2 and at round 3 (the 261 couples who had married by round 2 were excluded from the round 3 marriage analyses). This analysis considered the very small number (24 at round 2, 64 at round 3) of mothers who married a man other than the biological father of the Fragile Families child as unmarried. This was done as these new partners were not interviewed directly, and therefore information on their economic standing is not available.

The second outcome variable of interest was if the mother had had an additional child either by round 2 or round 3. Because economic information was not collected on new partners, only births that occurred between the two Fragile Families partners were included; other births that occurred between a Fragile Families mother and a new father were given a 0 (births between Fragile Families partners was 75% of total new births at round 2 and 64% of total new births at

round 3). Preliminary analyses indicated that those who married accounted for 18% of births at round 2 and 30% at round 3, so I therefore modeled marriage and the presence of an additional child as separate outcomes. Some women who had had a child by round 2 also had another child by round 3, so these two groups were not mutually exclusive.

Independent Variables

Household income included the total pre-tax income of all adults residing in the household. Income was assessed differently at round 1 than at round 2. At round 1, respondents were asked to indicate which one of nine income ranges best represented their income. The ranges varied from less than $5,000 to $75,000 or more, and ranges differed in interval amounts. Rates of missing data for this variable were 20%. At round 2, respondents were asked to provide a specific pre-tax household income amount. Therefore, rather than rely on broad income ranges and to ensure consistency across the two rounds, I used multiple imputation to impute a continuous round 1 income variable. The income variable was bounded by the income range given by the respondent (e.g., if the respondent indicated that their household income was between $20,000 and $25,000, then their imputed income would fall within this range). Creating continuous variables from discrete ranges is one of the advantages of multiple imputation (Little & Rubin, 2002), and is statistically preferred over other approaches, such as assigning all cases within a particular range its mean value. Income missing at round 2 was imputed according to the procedure outlined below.

To create a couple-level indicator of income, I used mother's report of household income if the couple was cohabiting, and if the couple was not living together, I combined mother and father's income reports. Maternal reports were chosen because they had lower amounts of

missing data; using father reports did not substantially change the results, although standard errors were slightly higher.

I undertook two robustness checks to test the validity of the imputed income variables. First, based on the range of income reported in round 1, I took the median of cases in that income range in round 2 and used that value instead of the imputed one. Using median values did not substantially change the results. Second, I compared the imputed income amounts with the available income data. This is not an ideal test of the validity of the multiple imputation procedure, however, as the data are not missing completely at random (MCAR), and extrapolating from those who reported an income to those who did not is likely biased. Nevertheless, the results indicate that the values for the multiply imputed income data are reasonable and in keeping with non-imputed income data. At round 1, the average household income was in the $20,000 to $24,999 range for mothers and in the $25,000 to $34,999 range for fathers. The continuously imputed income amount for that round was $20,953 (SD = 19,258) for mothers and $26,380 (SD = $23,647) for fathers. At round 2, the average reported household income for mothers was $21,212 (SD = $21,662) and for fathers $28,656 (SD = $28,556). The average income, according to the multiple imputation procedure, for that round was $20,994 (SD = 21,519) for mothers and $27,351 (SD = $27,755) for fathers.

Home ownership was assessed through four dummy variables: if the couple did not own a home at either round (the omitted category), the couple owned a home at both rounds, the couple owned a home at round 1 but not at round 2, and the couple did not own a home at round 1 but did at round 2. A couple was considered to own a home if either member of the couple indicated that they owned a home. The wording of this question differed between rounds 1 and 2. At round 1, respondents were asked if home where they lived was "owned or being bought by someone in

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your family". At round 2, the respondent was asked to describe their current living situation, and given seven different options, including "own your own home" and "live in a house or condo owned by another family member". Only couples who indicated that they owned their own home were given a "1" on this dichotomous variable. However, it is likely that the round 1 measure of home ownership overstates the percentage of couples who actually own their own home, as the question did not distinguish between couples who owned their own home and those who lived in homes owned by other individuals.

For other covariates, I relied on previous work done by Carlson and colleagues (Carlson et al. 2004) in their investigation of Fragile Families marital behavior. Based on their findings, I included controls for the following variables: relationship status, relationship quality, educational attainment, race and ethnicity, age, religious attendance, household structure, and months since the last interview. However, unlike Carlson et al., I also included measures of couple-level measures of income and home ownership. Both mother and father reports of each measure were used, with the exception of relationship status and household structure, which was taken from the mother's interview.

Relationship status classified the unmarried couples into one of three categories at round 1: cohabiting, romantically involved but not coresiding (termed "visiting"), and not romantically involved. At round 2, an additional dummy variable indicated if the person was romantically involved with someone other than the Fragile Families parent. Relationship quality was assessed at both rounds 1 and 2 by questions asking about the level of supportiveness present in the relationship. On a 1 (*often*) to 3 (*never*) scale, respondents were asked to indicate how often their partner "is fair and willing to compromise"; "expresses affection or love"; "insults or criticizes

you"; or "encourages or helps you". The criticism item was reverse coded, and the total score was the mean of the items. Alphas were above .70 for the support measures (*check).*

Educational attainment consisted of two dummy variables that measured if the respondent had a high school diploma (or GED) or had at least some post-secondary training (the omitted category was not having a high school diploma). Participant's self-reports of race and ethnicity classified respondents as Non-Hispanic White (omitted category), Non-Hispanic Black, Hispanic, and of other race or ethnicity. Because most parents were of the same racial or ethnic background, a dichotomous variable was created for those couples who were of different races or ethnicities. Household structure consisted of two variables, measuring the number of adults and children under the age of 18 present in the mother's household. Religious attendance at both rounds was measured on a 1 (*not at all*) to 5 (*once a week or more*) scale. Months elapsed since last interview was used to control for differential exposure to the risk of marriage or childbearing. I also included dummy variables for the city of residence.

Results

Descriptive Statistics

Descriptive statistics for all unmarried couples at round 1 indicate by round 2, 9% had married, and an additional 7% married by Round 3 (see Appendix Table 1 for means and standard deviations for all measures used in the analyses). Rates of subsequent childbearing were 10% at round 2 and 15% at round 3. At round 1, slightly more than half of all couples were cohabiting, with an additional third in a visiting relationship. The sample was predominantly minority, as 56% of the sample was non-Hispanic Black and 27% were Hispanic. Mothers

reported lower household incomes ($22,775) than did fathers ($28,228). Slightly less than one in two couples owned a house.

Table 1 presents selected sociodemographic characteristics for the sample, broken down into four categories: never married couples, ever married couples (either at round 2 or round 3), couples who did not have an additional child, and couples who had at least one additional child (either at round 2 or 3). The categories are not mutually exclusive, but as noted above, only one-third of the couples who had an additional child also married.

<< Table 1 about here >>

The table indicates that there were large differences in combined income between those who did and did not marry. At round 1, the average combined income was approximately $34,000 for both groups; at round 2, the combined income for couples who did not marry was $35,577, while the same figure for couples who did marry was $50,209. As for fertility status, the income increase from round 1 to round 2 was approximately $4,000 for the group that did not have an additional child ($35,635 to $39,374) and for the group that did have an additional child (from $29,692 to $33,208). Couples who became home owners were also more likely to marry, but not necessarily to have an additional child. Parents who married or had a child also rated their partners higher on supportiveness than did couples who had no change in their family status.

Regression Results

The first set of models regresses round 2 marriage and fertility status on round 1 income, home ownership, and parental supportiveness. These three independent variables are entered separately into the model, to test for possible mediating effects. All models control for the additional independent variables as described above.

<< Table 2 about here >>

Results for Model 1 indicate that income was positively associated with marriage (top panel; OR = 1.17, p < .10) but negatively associated with having an additional child (bottom panel; OR = .81, p < .01). Coefficients associated with income change little in the models that include home ownership (Model 2) or relationship quality (Model 3), indicated that their effect was independent of those variables. Home ownership was not significantly predictive of either marriage or having an additional child. Both maternal and paternal supportiveness was positively associated with marriage, while paternal supportiveness decreased the odds of having an additional child.

Models for the other covariates are not presented, but are available upon request. However, the findings are entirely consistent with what was reported by Carlson et al. (2004), as race and ethnicity, maternal education, and maternal religious attendance were significantly associated with the decision to marry. Like Carlson et al., I also find that the strongest predictor of marriage is relationship status, as cohabiting and visiting couples were more far more likely to marry than were non-romantically involved couples.

The next set of models associates changes between rounds 1 and 2 in income, home ownership, and parental support to round 3 marriage and fertility status. As indicated above, the coefficients associated with the round 2 variables can be interpreted as the effect of a change in that variable, holding prior values constant. Because the income, home ownership, and supportiveness variables were largely independent of each other, results are only presented for the model that included all three measures. These models exclude the 261 couples who married by round 2.

<< Table 3 about here >>

Positive changes in income from round 1 to round 2 (as represented by the round 2 coefficients) increased the odds that a couple married by one-fifth (OR = 1.23, p < .05). Couples who became home owners between rounds showed a large increase in the odds that they would marry (OR = 2.04, p < .01), while those who owned a home at both rounds were also positively associated with marriage (OR = 1.66, p < .05). Neither income nor home ownership was significantly associated with having a child by round 3, and the coefficients were in some cases negative. Mothers and fathers who reported their partners as more supportive in round 2 relative to round 1 were more likely to get married (OR = 1.56, p < .05 for mothers, and OR = 1.69, p < .01 for fathers). Fathers who reported mothers as higher on parental supportiveness had partners who were more likely to have a child (OR = 1.29, p < .05).

In additional models not shown, I restricted the sample to cohabiting couples to test the association between marriage and income-to-needs ratios (defined as a family's income as a proportion of the federal poverty line). As the mother reported on the income of all people who lived in her household, and not just blood relatives, it was impossible to construct income-to-needs ratios as cacluated by the U.S. Census Bureau. Instead, as has been done on other work with cohabiting households and poverty (Knab, 2005), these income-to-need ratios reflect all members of the household, including cohabiting partners. I also used the income-to-needs ratios to construct a dummy variable indicating if the family would be classified as poor.

Results are largely consistent with findings from previous models. The round 1 income-to-needs ratio was positively but not significantly associated with the odds of marriage at round 2. At round 2, the odds ratio for the income-to-needs variable was 1.42 (p < .01), indicating that positively changes in the ratio were associated with a 42% increase in the odds of marriage by round 3. Poverty status at round 2 was associated with a decrease in the odds of round 3 marriage

by nearly 50% (OR = .58, p < .01). For fertility, income-to-needs was negatively associated, and poverty positively associated, with the likelihood of having an additional child by Round 2. Neither measure had a significant association with fertility at Round 3.

Discussion

This paper has tested the marital expectations hypothesis, which posits in part that marriage should be sensitive to economic improvements, whereas childbearing should have no association with financial well-being. Using change models to see if gains in income are associated with marriage and childbearing, the results largely confirm the hypothesis, as income and home ownership were positively associated with marriage, but had little effect on childbearing. Although income had little effect on the decision to marry by round 2, a one unit log increase in income, controlling for prior levels of income, was associated with a 22% increase in the odds of marriage. Among cohabiting couples, households that were classified as poor were half as likely to marry as were households that were not poor.

Additionally, home ownership played an important role in determining marriage behavior. Owning a home, as past qualitative work has shown, represents not only a significant level of financial assets, but also an entrée into the middle class and thus serves as a powerful symbol of a couples' readiness for marriage (Edin & Kefalas, 2005; Edin et al., 2004; Gibson-Davis et al., 2005). These quantitative results confirm that qualitative finding. While home ownership at round 1 was not significantly predictive of marriage by round 2, acquiring a home between the two rounds was associated with a three-fold increase in the odds that a couple would marry. Other empirical evidence on home ownership hastening the transition to marriage is

scarce, but this association has been found in studies in both the United States and Great Britain (Murphy & Sullivan, 1985; South & Lloyd, 1992).

Income and home ownership had few effects on the likelihood of having an additional child. At round 1, in fact, income was negatively related to childbearing. Additionally, a change in home ownership status was not associated with the decision to have an additional child. This result is consistent with qualitative studies that have found that couples believe that marriage, but not children, necessitates a certain level of financial well-being (Edin & Kefalas, 2005; Gibson-Davis et al., 2005). It appears somewhat incongruous to believe that marriage requires money while raising children does not, but as these results indicate, couples are more sensitive to income changes for marriage than for childbearing. There is even some tentative evidence to suggest that couples have an additional child even if their financial circumstances are worsening. Policies such as the Healthy Marriage Initiative may want to directly address the financial realities of both marriage and childbearing, and explore why couples do not perceive childrearing to be the more expensive endeavor.

There are inherent endogeneity problems in analyzing the associations between marriage, fertility, and income. First, while using a change model and controlling for an extensive set of covariates reduces the possibility of omitted variable bias, it cannot eliminate the problem entirely. Second, the models are based on the assumption that income is causally prior to marriage and fertility decisions, but there have been a number of studies that have assumed just the opposite (Geronimus & Korenman, 1992; Knab, 2005; Lerman, 2002). I use longitudinal data to address this concern, but it is still conceptually possible that the causal ordering used in this paper is incorrect. Therefore, this study at best shows a correlation between income and marriage, but cannot demonstrate a causal link between the two.

Another limitation is that the fertility decisions analyzed here are for couples who have already had a child outside the context of marriage. It is therefore not surprisingly that two-thirds of additional births to Fragile Families couples were to those who remained unmarried. Thus, the results do not represent a test of the effect of income on becoming a parent, but rather on the decision to have a subsequent child. Furthermore, while Fragile Families did not collect information on the intentionality of births, national statistics indicate that up to one-third of all births are unplanned (Centers for Disease Control and Prevention, 2006). The observed births therefore most likely include some unintentional pregnancies, but I cannot discriminate between the two groups.

Important unanswered questions remain about the marital expectations hypothesis. It is unknown, for example, how this hypothesis would interact with race and ethnicity, and if the findings presented here would hold equally for Whites, Blacks, and Hispanics. Although the present sample was too small to provide reliable estimates for these three groups, this is clearly an important issue for future research. This paper also did not directly test the hypothesis that low-income women place a higher value on childbearing. However, these findings indicate that the cultural perception that marriage requires income and assets is more than just a perception, and couples respond to changes in their economic circumstances. As policy makers continue to craft policies that encourage the formation of two-parent families, they should take these economic considerations into account, and strive to create policies that will enhance both relational and financial well-being.

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Table 1

Selected Descriptive Statistics, by Marriage and Fertility Status

	Never married		Married[a]		No additional child		Had additional child[b]	
	Mean	Std dev	Mean	Std dev	Mean	Std dev	Mean	Std dev
Combined income								
Round 1	34,213	(29,641)	34,316	(30,610)	35,635	(30,690)	29,692	(26,181)
Round 2	35,577	(34,082)	50,209	(40,897)	39,374	(36,447)	33,208	(32,565)
Home ownership								
Never owned a home	.50		.51		.49		.53	
Owned a home in both rounds	.02		.08		.03		.03	
Owned a home in Round 1, but not in Round 2	.34		.23		.33		.30	
Became a home owner in Round 2	.08		.16		.09		.10	
Round 1 Relationship status								
Cohabiting	.43		.76		.44		.62	
Visiting	.38		.21		.36		.31	
Not romantically involved	.19		.03		.19		.07	
Parental supportiveness								
Round 1: Mother's report of father	2.56	(.42)	2.72	(.33)	2.56	(.43)	2.66	(.36)
Round 1: Father's report of mother	2.31	(.32)	2.40	(.25)	2.32	(.32)	2.35	(.29)
Round 2: Mother's report of father	1.82	(.84)	2.57	(.49)	1.82	(.84)	2.29	(.72)
Round 2: Father's report of mother	1.94	(.82)	2.57	(.44)	1.94	(.82)	2.34	(.67)
Number of observations	*2,500*		*454*		*2,255*		*699*	

[a]Refers to couples who married either by Round 2 or by Round 3

[b]Refers to couples who had an additional child by Round 2 and/or by Round 3

Table 2

Logistic Regressions on Getting Married or Having an Additional Child By Round 2

	Married by Round 2								
	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Rd 1 Combined income (logged)	.16	.09	1.17*	.14	.09	1.15*	.14	.09	1.15*
Rd 1 Home ownership				.19	.13	1.21	.22	.14	1.25
Rd 1 Parental supportiveness									
Mother's report of father							.75	.28	2.11***
Father's report of mother							.44	.27	1.55*

	Had An Additional Child by Round 2								
	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Rd 1 Combined income (logged)	-.21	.06	.81***	-.22	.06	.80***	-.22	.06	.81***
Rd 1 Home ownership				.06	.13	1.07	.06	.13	1.07
Rd 1 Parental supportiveness									
Mother's report of father							.12	.14	1.13
Father's report of mother							-.41	.16	.67**

| | | | | | | | | | |
| *Number of observations* | 2,954 | | | 2,954 | | | 2,954 | | |

*p < .10 **p < .05 ***p < .01

All models control for relationship status, race and ethnicity, age, educational attainment, household structure, religious attendance, elapsed time since last interview, and city of residence.

Table 3

Logistic Regressions on Getting Married or Having an Additional Child By Round 3

	Married by Round 3				Additional Child by Round 3		
	B	*SE B*	*β*		*B*	*SE B*	*β*
Combined income (logged)							
Rd 1	.16	.11	1.18		.01	.07	1.01
Rd 2	.20	.08	1.23**		.02	.04	1.02
Home ownership							
Never owned a home (reference)							
Became a home owner in Rd 2	1.08	.35	2.04***		-.32	.39	.73
Owned a home in Rd 1, but not in Rd 2	-.39	.26	.68		-.08	.11	.92
Owned a home in both rounds	.50	.25	1.66**		.17	.15	1.18
Parental supportiveness							
Rd 1: Mother's report of father	-.15	.19	.86		.16	.18	1.18
Rd 1: Father's report of mother	.35	.30	1.41		.07	.17	1.07
Rd 2: Mother's report of father	.53	.24	1.70**		-.05	.24	.96
Rd 2: Father's report of mother	.52	.19	1.69***		.26	.09	1.29***
Number of observations	*2,693*				*2,693*		

*p < .10 **p < .05 ***p < .01

All models control for relationship status, race and ethnicity, age, educational attainment, household structure, religious attendance, elapsed time since last interview, and city of residence.

Appendix Table A.1
Descriptive Statistics of Unmarried Fragile Families Couples

	Mean	Std dev.
Married by round 2	.09	
Married by round 3[a]	.07	
Additional child by round 2	.10	
Additional child by round 3	.15	
Relationship status		
Cohabiting	.55	
Visiting	.34	
Not romantically involved	.11	
Demographics and household structure		
Non-Hispanic Black	.55	
Non-Hispanic White	.13	
Hispanic	.27	
Other race	.03	
Mother, father different races	.15	
Mother's age	23.8	(5.5)
Father's age	26.4	(7.0)
Number of children in household	1.13	(1.31)
Number of adults in household	2.17	(1.10)
Educational attainment		
Mother: No high school diploma	.42	
Mother: High school diploma	.35	
Mother: Some college or greater	.24	
Father: No high school diploma	.41	
Father: High school diploma	.38	
Father: Some college or greater	.21	
Religious attendance		
Mother	2.64	(1.41)
Father	2.44	(1.33)
Attitudes and relationship quality		
Mother: Father supportiveness	2.62	(.39)
Father: Mother supportiveness	2.34	(.30)
Elapsed time since last interview (days)	440	(103)

Appendix Table A.1 (con't)

	Mean	Std dev.
Income		
Mother's household income ($)	20,953	(19,258)
Father's household income ($)	26,380	(23,647)
Couple's combined income ($)	34,229	(29,791)
Home ownership	.43	
Number of observations	*2,747*	

Notes:

All measures refer to couple's status at round 1 unless otherwise noted.

[a]Of those couples who were unmarried at round 2.