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Marriage Patterns among Unwed Mothers: Before and After PRWORA

Deborah Roempke Graefe, Pennsylvania State University

Daniel T. Lichter, Cornell University

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Deborah Roempke Graefe
Population Research Institute
505 Oswald Tower
The Pennsylvania State University
University Park, PA 16802
Phone: 814-865-8964
Graefe@pop.psu.edu

Daniel T. Lichter
Department of Policy Analysis and Management
102 MVR Hall
Cornell University
Ithaca, NY 14853
Phone: 607-254-8781
Dtl28@cornell.edu

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Abstract

The promotion of marriage and two-parent families became an explicit public policy goal with the passage of the 1996 welfare reform bill. Marriage has the putative effect of reducing welfare dependency among single mothers, but only if they marry men with earnings sufficient to lift them and their children out of poverty. Newly released data from the 2002 cycle of the National Survey of Family Growth (NSFG), along with data from the 1995 cycle, allow us to compare pre- and post-PRWORA differences in (1) cumulative marriage rates among unwed mothers; and (2) patterns of marital choice, i.e., differences in characteristics of the men these mothers marry, such as their education and employment status. Overall, our results show that unwed childbearing is associated with lower marriage rates and marital quality. Although difference-in-difference models show that welfare reform was not strongly associated with changes in marriage among nonmarital birth mothers, marriage rates did not decrease significantly among the most disadvantaged mothers during the post-1996 period. Compared with other women, nonmarital birth mothers also were less likely to marry "economically attractive" men in the post-welfare reform period. The success of marriage promotion initiatives may depend heavily on whether women themselves are “marriageable” and whether potential spouses have the ability to support a stable family life.

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INTRODUCTION

The federal government's new programmatic efforts to promote marriage began with the inclusion of specific family formation goals in the landmark welfare reform bill in 1996—the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). Section 401 of PRWORA aimed to "end the dependence of needy parents on government by promoting job preparation, work, and *marriage*" (emphasis ours) and to "encourage the formation and maintenance of two-parent families." Since then, public policy debates about marriage promotion have moved front and center with the establishment in 2002 of the "Healthy Marriage Initiative" in the Administration for Children and Families (Dion, 2005). The reauthorization of PRWORA in early 2006 (as part of the Deficit Reduction Act of 2005) now provides major funding ($150 million per year) for demonstration and evaluation projects that promote healthy marriages and responsible fatherhood. To date, however, evidence of policy impacts on marriage is ambiguous (for reviews, see Blank, 2002; Lichter & Jayakody, 2002). It also is unclear that marriage *per se* can provide an effective "solution" to poverty or welfare dependence among poor single mothers (Lichter, Graefe, & Brown, 2003).

Indeed, most studies of marriage among the poor have been based on state waiver data or program evaluations from the early to mid-1990s (Bitler, Gelbach, Hoynes & Zavodny, 2004; Fitzgerald & Ribar, 2004; Gennetian & Knox, 2004; Harknett & Gennetian, 2003). Surprisingly little empirical attention has been given to changes in the pre- and post-welfare-reform marital behaviors of the economically disadvantaged population that presumably matters most from a policy standpoint—women who have children outside of marriage (hereafter termed "nonmarital birth mothers"). This is unfortunate because a record number of children—1.5 million—were

born to unmarried women in 2005 when the nonmarital fertility ratio hit at an all-time high (36.8 percent) (Hamilton, Martin, &Ventura, 2006). Over one-half of mothers heading families with children in the late 1990s were never-married women (Sorenson & Halpern, 1999). Moreover, the percentage of nonmarital birth mothers as a share of all mothers receiving Temporary Assistance for Needy Families (TANF) increased by 16 percent between 1994 and 2001 (Administration for Children and Families, 2005). These recent trends in unwed childbearing and the composition of welfare caseloads raise new policy questions about the impact (or lack thereof) of welfare reform on marriage among economically disadvantaged populations.

In this paper, we ask two straightforward but neglected questions. Did the marriage rates of women whose first births were out-of-wedlock—a population targeted by welfare reform—increase following the passage of the 1996 welfare reform bill? And were nonmarital birth mothers more likely after 1996 than before to wed economically "unattractive" men? Data from the newly released 2002 cycle of the National Survey of Family Growth (NSFG), together with data from the 1995 cycle, permit us to compare for the first time pre- and post-PRWORA differences (1) in cumulative marriage rates among nonmarital birth mothers; and (2) in the "quality" of the men (e.g., education and employment status) these mothers ultimately marry. We use discrete-time event history modeling of transitions to marriage among single women, including single mothers, during the 5 years preceding the 1995 and 2002 interviews (i.e., over the pre- and post-welfare reform periods). A difference-in-difference modeling approach then provides evidence regarding pre- and post-welfare differences for several important outcomes: marriage patterns, husbands' education and employment, and family poverty. Specifically, we compare nonmarital birth mothers with women who had not borne a first child before marriage—a population much less likely to be influenced by welfare policies. To presage our results, welfare reform is not strongly associated with marital transitions among nonmarital birth mothers

overall, but is linked to sustained marriage rates over time among the most disadvantaged nonmarital birth mothers (i.e., low-educated mothers), as well as to declines in the economic status of the men they marry.

Economic Models of Marriage

Economic or utility-maximizing models of marriage suggest that individuals marry when the net benefits of marriage exceed those of remaining single (Becker, 1991). Most recent studies of marriage and divorce emphasize that the blurring of traditional gender roles have eroded the "gains to trade" and contributed to the retreat from marriage in the United States (Burstein, 2007; Oppenheimer & Lew, 1995). Declines in the labor market prospects and earnings of low-educated men and the rapid entry of women into the labor market have presumably contributed to declining marriage rates, increasing divorce, and rising nonmarital fertility (Burstein, 2007). Indeed, marriage and divorce rates have diverged significantly by educational level over the past three decades (Ellwood & Jencks, 2004). Marriage is increasingly viewed as a "luxury good" that is often outside the economic reach of low-income couples (Edin & Kefalas, 2005; Lichter et al., 2002). For single mothers, the availability of welfare income alters the economic calculus involved in marital decision-making. Welfare presumably raises the utility of the unmarried state, while reducing the costs of out-of-wedlock childbearing and divorce (Bitler, et al., 2004). It can thus be argued that welfare provides an income alternative to marriage among economically disadvantaged nonmarital birth mothers.

Unwed childbearing also restricts women's marital search activities, diminishes their attractiveness as marital partners, and limits their access to "economically attractive" men (Graefe & Lichter, 2002, 2007; Upchurch & Lillard, 2001). From a marital search theoretical perspective (see England and Farkas, 1986), the mate selection processes among women and

men in the marriage market are analogous to the bargaining between potential employers and employees in the labor market. Valued workers, because they are much sought after, can bid up their salaries by playing off the job offers of prospective employers. Similarly, women searching for a marital partner bring resources (e.g., education, earnings, personality, physical attractiveness) to the marriage market and, according to marital search theory, seek the highest bidder among potential suitors (i.e., the man who offers the most in return). Women with the least desirable traits are less likely than others to search successfully in the marriage market. Single men may be unwilling to assume the financial and parental obligations that come with marriage to women who have children from previous relationships. These children represent a clear disincentive to marriage for many men (South, 1994). In fact, Lichter and Graefe (2001) showed that nonmarital birth mothers—those who do not marry the biological father—are only about one-half as likely as other women to marry.[1] Such findings give new impetus to both identifying and removing existing barriers to marriage among low-income couples (Edin & Reed, 2005).

Recent research also raises concerns about the "quality" of men available for marriage to nonmarital birth mothers (Harknett & McLanahan, 2005). If co-residential children reduce women's bargaining position in the marriage market, then marriage-seeking single mothers arguably must broaden their mate selection criteria (i.e., "cast a wider net") if they hope to marry, which most do (Gibson-Davis, Edin, & McLanahan, 2005). The alternative is to remain single or to cohabit. Using data from the 1980 through 1995 June Current Population Surveys, Qian, Lichter, and Mellott (2005) showed that unwed mothers were more likely than childless

[1] To be sure, some of this observed difference is due to the inability to control for unobserved traits that distinguish these single mothers from other women (e.g., mental health, personality traits, etc.) (Graefe & Lichter, 2002; Upchurch & Lillard, 2001). To control for unobserved heterogeneity, Lichter and Graefe (2001) compared the marriage rates of single mothers with single women who miscarried a pregnancy. They assumed that these two groups are drawn from the same population. The results showed that nonmarital birth mothers were about 15-20 percent less likely to ever-marry than were never-married women who did not carry their pregnancies to term.

women to cohabit and to marry low-educated men. Unwed mothers also are apparently more likely to marry or to cohabit with previously married men, including those with children from previous relationships (Goldscheider & Sassler, 2006; Graefe & Lichter, 2007). Unfortunately, complex family relationships involving ex-partners and noncustodial children can lead to marital conflict and undermine the quality and stability of intimate relationships. These marriages often do not last (Booth & Edwards, 1994; Whitsell & Land, 1992).

Welfare Reform and Marriage among Nonmarital Birth Mothers

Nonmarital birth mothers are clearly disadvantaged in the marriage market. But whether welfare reform and marriage promotion activities have led more of these mothers to the altar is uncertain (Grogger & Karoly, 2005). A common but unsubstantiated assumption—at least from a utility-maximizing theoretical perspective—is that the post-welfare-reform period should be associated with accelerated marriage rates. Indeed, early critics of PRWORA raised the specter that welfare reform would "force," or at least encourage, poor single mothers into abusive, unhealthy, or otherwise "bad" relationships (Coltrane, 2001). Time-limited welfare could have the effect of making marriage—any kind of marriage— an acceptable, even if ill-advised, alternative to work or welfare. The early concern was that the 1996 welfare reform could unintentionally encourage poor single mothers, as a survival strategy, to marry unwisely, especially if time limits on welfare receipt were reached or if jobs were unavailable or did not pay well. Simply put, single mothers in the post-welfare reform period may lower their "reservation quality partner" as new economic exigencies and changing welfare rules cause them to redefine suitable potential marriage partners (England & Farkas, 1986).

An alternative view is that welfare's new work-related requirements may make single mothers more attractive in the marriage market. New work requirements and strict time limits

on welfare receipt have conveyed a clear message: Welfare provides short-term cash assistance in a time of need and should not be viewed as a way of life or as a long-term substitute for work or marriage. Furthermore, poor single women's rapid entry into the labor force may have expanded their opportunities to meet suitable partners in the workplace. Enhanced earnings (i.e., the so-called "income effect") and a new sense of personal self-efficacy or self-esteem also potentially increase women's attractiveness in the marriage market and act upon their marital aspirations (Gassman-Pines & Yoshikawa, 2006; Harknett & Gennetian, 2003; McLaughlin & Lichter, 1997). However, any differences in marriage patterns associated with welfare reform are likely to be second-order effects with highly diluted behavioral impacts (see Burstein, 2007). Most state welfare offices have been slow to introduce specific marriage promotion initiatives that target female-headed families with children directly (Dion, 2005).

Still another perspective is that the new work requirements of PRWORA may have eliminated the perverse economic exigencies that could steer some low-income women toward marriage—any marriage. For example, women's growing labor market earnings may subsidize the marital search process (i.e., "independence effect"), while delaying women's entry into marriage. Work itself may create new time constraints on the marital search process. Working single mothers also may rededicate themselves to their children or, according to Edin and Kefalas (2005), encourage them to place "motherhood before marriage." Indeed, Kaestner, Korenman, and O'Neill (2003) report difference-in-differences estimates that indicate reduced rates of fertility and marriage in the aftermath of PRWORA. The implication is that unwed childbearing may be more negatively selected today than in the past, a fact that is likely to be revealed in low rates of marriage and the quality of women's husbands.

In sum, the 1996 welfare-reform bill and healthy marriage initiatives have ushered in a period of considerable uncertainty in marriage and mate selection patterns among disadvantaged

women who began motherhood unmarried (Ellwood & Jencks, 2005). Marriage is on the public policy agenda. A good marriage is increasingly seen as a route to economic self-sufficiency for poor single mothers, while at the same time steering positive developmental trajectories for their co-residential children (Amato, 2005; Thomas & Sawhill, 2005). For the purposes of our study, we have defined "good" husbands in narrow economic terms (i. e., men's education and employment).[2] Our study, based on newly released (and propitiously timed) data from the 2002 NSFG, along with equivalent marriage and fertility data collected in 1995, provides an unusually good opportunity to track the before- and after-PRWORA marital experiences of nonmarital birth mothers—a group that is particularly disadvantaged in the marriage market..

METHODOLOGY

Data

Cycles 5 and 6 of the NSFG provide detailed retrospective life history information, including fertility experiences and marital relationship histories for, respectively, 10,847 childbearing aged (15- to 45-year-old) women in 1995 (Kelly, Mosher, Duffer, & Kinsey, 1997) and 7,643 childbearing aged (15- to 44-year-old) women in 2002 (U.S. Department of Health and Human Services, 2004). The NSFG data quality is very high due to careful questionnaire design, testing, and interview training; the use of computer-assisted personal interviewing permitting within-interview consistency checks; and monetary compensation to respondents. The overall response rate is roughly 80 percent in each survey.

These data have several useful features. They are nationally-representative and provide unusually detailed fertility and relationship histories for women of reproductive age. More

[2] Clearly, characteristics of a suitable partner are subjective and involve many considerations, including love, physical attraction, and sexual and emotional compatibility (South, 1991). Our focus on economic considerations does not deny these aspects of the mate selection process, but data limitations prevent us from addressing them directly. On the other hand, many personal traits—intelligence, social skills, reliability—may contribute both to economic mobility and to success in the marriage market.

importantly, Cycles 5 and 6 of the NSFG permit statistical comparisons of pre- and post-welfare reform marriage cohorts. Pre-welfare reform experiences are based on reports from the 1995 NSFG and. post-reform experiences come from the 2002 NSFG. For analysis of the transition to marriage, we focus on 9,660 NSFG women, aged 21-45 at the date of interview, who were at risk of marriage at any time during the 5 years before the interview (i.e., they were unmarried at some point during the 5-year observation periods). The Cycle 6 interview in 2002 provides information on marital transitions for the 1998-2002 period, which is compared with marriage behavior drawn from the Cycle 5 interview (1995) for the 5 years before passage of the welfare reform bill. For analyses of the economic attractiveness of women's husbands, we focus on the 2,510 women who married during these two 5-year observation periods. Here, we compare the economic characteristics of husbands of women having children born out-of-wedlock with the husbands of women who delayed childbearing until after marriage.

Table 1 presents descriptive statistics for the study sample of women at risk of marriage (top panel) and the subsamples of women who actually married during the observation periods (bottom two panels). The first column of statistics in the top panel is for all study women, and the first column of statistics in the second and third panels are for all pre- and post-reform study women, respectively, who married during the 5-year observation. The last two columns break these groups down by whether the respondent is a nonmarital birth mother.

(Table 1 about here)

Data in Table 1 (first column, second and third panels) show that a higher proportion of first births were nonmarital among women who married in the post- compared with the pre-reform period (24 versus 12 percent). This is consistent with vital registration data showing increasing nonmarital fertility over this period (Hamilton et al., 2006) Among women who married, more had earned a high school diploma and fewer had earned post-secondary degrees in

the post-welfare reform period. The post-welfare reform sample of married women also has a younger age distribution and a slightly higher proportion of minority women. The period differences also imply greater negative selection into marriage among nonmarital birth mothers in the post-reform period than in the period before 1996 (i.e., the percentage with more than a high school education for nonmarital birth mothers declined more than for other women). Poverty rates among married women were larger in the post-reform period than in the pre-welfare reform period.

Nonmarital birth mothers who were at risk of marriage were more disadvantaged than other women—only 15 percent achieved more than a high school education compared with half of other women, and only a third had a family income at least 200 percent of the poverty level compared with two-thirds of other women (see last two columns of top panel in Table 1). Among nonmarital birth mothers, 15 percent of those who married in the pre-reform period were below the poverty level but a fourth of those who married in the post-reform period were poor (bottom two panels of Table 1). This period-to-period difference is greater than that observed for other women. To be specific, among other women who married during the pre-reform period, 6 percent were below poverty, compared with 9 percent of those marrying post-reform.

Nonmarital birth mothers also are at comparatively high risk of welfare receipt, particularly those with low educational attainment. Kaestner et al. (2003) used an indicator of being at-risk of welfare receipt based on the respondent's family structure at age 14 and her mother's educational attainment to show a stronger effect for at-risk teens compared with their more advantaged peers. Following their strategy, we include in our estimation of the transition to marriage a measure of being at risk for welfare receipt (termed "high-risk childhood") which is coded "yes" for women who experienced family-of-origin marital disruption before age 18 and whose mothers had a high school or lower educational attainment (or whose fathers had a high

school or lower education if the mother's education was not available in the data). Table 1 (columns 2 and 3) shows that 40 percent of nonmarital birth mothers were in the high-risk childhood category versus only 23 percent of other women. Although our primary analytical interest is in the pre- and post-reform differences between nonmarital birth mothers and other women, we also compare mothers with and without a nonmarital birth, with high or low levels of education, who had high-risk versus low-risk childhood experiences (i.e., excluding non-mothers) and childless women who had high-risk childhood experiences. Overall, 44 percent of the women at risk of marriage never had a birth (i.e., were "childless"); among married women, 39 percent in the pre-reform and 32 percent in the post-reform period were childless.

In our analysis of transitions to marriage, we compare (1) nonmarital birth mothers with other women (i.e., with women who did not have a first child nonmaritally); (2) high-risk nonmarital birth mothers with high-risk mothers who did not have their first birth nonmaritally (i.e., "marital birth mothers") and with high-risk childless women, by educational attainment; and (3) high-risk nonmarital birth mothers with low-risk nonmarital birth mothers, by educational attainment. These comparison groups are expected to be less influenced by welfare policy than are high-risk nonmarital first-birth mothers. Comparisons between groups of mothers (i.e., excluding childless women) eliminates heterogeneity in the barrier to marriage that having a child may represent which results when childless women are included among the reference group. For analysis of husbands' economic characteristics, we compare nonmarital birth mothers with other women who married (during the 1991-1995 and 1998-2002 observation periods).

Analytical Procedures

We begin by presenting descriptive statistics on changing transitions to marriage. We show cumulative proportions ever-marrying during the two observation periods for nonmarital birth mothers and other women. These are calculated using coefficients from discrete-time event history models of the transition to marriage in a life table framework according to the method of Guilkey and Rindfuss (1987). The event history data are created using person-years as the unit of analysis and are right censored upon marriage or in the survey year. These models consider only duration of observation (i.e., time while at risk of marriage) and nonmarital birth mother status.

We also present results from several multivariate discrete-time event history models of marital transitions. We compare differences across the pre- and post-reform periods for women with children who do not share a personal high risk for welfare receipt and for women who share these personal high risk factors but differ on the likelihood of welfare participation resulting from having a child (i.e., the refined comparison groups discussed above). Covariates included in this model are duration of observation (dummy variables for year of observation), a dummy-coded nonmarital first birth indicator and a continuous indicator of age at first birth (both excluded in models for women who never had a child), having a high school education or less (dummy coded), and post-reform period (dummy coded), plus interaction terms between post-reform period, nonmarital birth mother, and having low education. Estimated proportions marrying are calculated, net the effect of time (i.e., duration), for each comparison group using results from these models, and the ratio of post- to pre-reform proportions is used to compare the period-based differences for these groups. A ratio greater than 1 indicates a greater likelihood of marriage in the post-reform period; a ratio less than 1, a lower likelihood.

We then present descriptive analysis of the husbands' social and economic characteristics for the women who marry. Our estimates are based on observed means or proportions, weighted to accurately reflect the population of 21 to 44-year-old women with husbands in each period. Spouse characteristics include his previous marital status, whether he had children from a previous relationship, his employment status at interview, and his educational attainment. Education is categorized as less than high school for those without a diploma, high school for those with any type of diploma (i.e., GED or regular diploma), or more than high school for those with any type of post-secondary degree. All other partner characteristics are coded as "yes" or "no." Contrasts are presented for women with and without nonmarital first births for pre- and post-reform cohorts.

Finally, using a multinomial logit model, we estimate the association between our key independent variable—whether the woman had a nonmarital first birth (reference category is no nonmarital first birth)—and husband's education (categories defined above), controlling for the woman's educational attainment (using continuous coding) and post-reform period (referent is pre-reform period).[3] The dummy variable for pre-/post-reform period nets out the effects of secular increases in education for this comparison. These analyses cannot establish with certainty whether nonmarital fertility has a causal effect on partner quality. This exercise nevertheless provides useful information about relative differences in the educational levels of women's partners in the pre- and post-welfare reform periods, and how they vary by women's nonmarital birth status. We similarly examine differences in male partners' employment status and family poverty rates among nonmarital birth mothers and other women.

[3] An ordered logit model, which is appropriate for modeling an ordered multiple outcome as we use here, was also tested. This model is also known as the proportional odds model and assumes the odds ratio is constant for all categories. While results from this model are quite similar to results reported here, the test for the proportional odds assumption indicated assumption violation, leading us to test models using the multinomial logit procedure.

Our difference-in-difference approach introduces an interaction term between nonmarital first birth and pre-/post-reform period in each of these models. The outcome variables are associated with nonmarital childbearing overall, and the period variable captures associations of both reform and increasing educational attainment over time. The interaction term tells us whether the marriage patterns of nonmarital birth mothers were different in the post-1996 period relative to before 1996, compared with women who did not have a nonmarital first birth – a group we expect to be less influenced by welfare reform. A positive coefficient indicates a greater likelihood that the spouse is of lower education, that the spouse is not employed, or that the family income is lower in the post-reform than in the pre-reform period for nonmarital birth mothers compared with other women. Thus, a positive interaction coefficient provides evidence of worse marital outcomes and a negative interaction coefficient would indicate better marital outcomes among nonmarital birth mothers in the post- rather than pre-1996 welfare reform period.

RESULTS

The Transition to Marriage

Figure 1 presents cumulative proportions of women marrying by each year for nonmarital birth mothers and other women. These data indicate that transitions to marriage occurred more slowly over the post-reform five-year period than during the pre-reform five-year period, although by the end of each observation period no pre-/post-reform difference in the proportions marrying is evident for either comparison group. Roughly one-quarter of nonmarital birth mothers and over one-third of other women had married by the fifth year. Period differences in the timing of marriage, however, are statistically significant at only the.10 level. Contrary to our expectations, there is no statistically significant difference between the pre- and post-welfare

reform period in the association between a nonmarital birth and the transition to marriage (interaction term not shown). The marital behavior of nonmarital birth mothers appears not to be influenced by welfare reform. Our initial results thus corroborate other studies indicating that the welfare reform period (mostly the pre-1996 welfare waiver period) was not linked to an upswing in marriage rates among disadvantaged women (Bitler et al., 2004).

(Figure 1 about here)

The preceding analysis aggregates all nonmarital first birth mothers, regardless of any heterogeneity in risk for welfare participation, and includes both childless and marital birth mothers in the comparison group. Table 2 presents logits of interest from discrete-time event history models of the transition to marriage for more refined comparison groups, including nonmarital birth mothers with high risk childhood experiences (defined earlier in the methods section) and low education. Model 1 tests for pre- and post-reform differences among mothers (both nonmarital and marital first birth mothers) who grew up in family circumstances presenting a low risk of welfare receipt – having intact families of origin or higher education parents. For these women, a nonmarital birth is associated with reductions in the likelihood of marriage compared with other single mothers. This statistical association is observed in both the pre- and post-welfare reform periods. More interestingly, among mothers with high-risk childhood backgrounds (having a nonintact family of origin and lower education parents), the association between a nonmarital first birth and marriage varied across periods by educational attainment. Nonmarital birth mothers were less likely to become married, especially in the post-reform period, unless they had low educational attainment, in which case this association was muted. In other words, the "retreat from marriage" was slower among "at risk" nonmarital birth mothers than other women during the post-welfare reform period The results of model 3 show that, for

childless women, neither educational attainment nor, as expected, period was related to their transitions to marriage.

(Table 2 about here)

To better demonstrate these relationships, Table 3 presents the estimated proportions of women in our comparison groups who married, net of the effects of duration (in years). These estimates were calculated based upon coefficients from Table 2 and an average age at first birth (of 21 years of age). The differences between periods indicate that only marital birth mothers with more than a high school education—women unlikely to be affected by welfare policy—were more likely to marry in the post-reform period compared with the earlier period. They may have been encouraged to marry by post-1996 economic growth. In comparison, both marital and nonmarital birth mothers with low educational attainment and a high-risk background – the groups perhaps most likely to be influenced by welfare reform – were neither more nor less likely to marry after welfare reform. Low-risk nonmarital birth mothers and high-risk nonmarital birth mothers with a high education, on the other hand, were less likely to marry post-welfare reform than before the legislation went into effect. This confirms the finding based on our less refined comparison between all nonmarital birth mothers and other women of no increase in marriage among nonmarital birth mothers that may be attributable to welfare reform. Notable, however, is that marriage did not decrease in the most disadvantaged groups of mothers, as it tended to do for other slightly more advantaged nonmarital birth mothers.

(Table 3 about here)

Characteristics of Women's Husbands

We now turn to an examination of the changing characteristics of the partners of women who married during 1991-1995 and 1998-2002. Table 4 presents the percentages of women with husbands at various levels of education, as well as provides the percentages of women with

employed or previously married husbands and the percentages of husbands with children from previous relationships.

(Table 4 about here)

The educational levels of the husbands of other women changed less during the post-1996 period than it did for nonmarital birth mothers who married (Table 4). For the former, a smaller percentage of partners were high school dropouts in the post-1996 period, but also fewer partners obtained more than a high school degree. This general pattern of difference also is evident among nonmarital birth mothers. The main difference is that the percentages of nonmarital birth mothers with highly educated partners declined more rapidly (between the pre- and post-welfare period) than it did for other women. Our analyses also indicate that the husbands of nonmarital birth mothers were slightly more likely to be unemployed in the post-1996 period, while the husbands of other women were somewhat more likely to be employed. This is perhaps surprising because the late 1990s was a period of rapid job and economic growth. Other analyses show small differences over time in the husbands of nonmarital birth mothers and other women. Women (regardless of nonmarital birth status) were generally less likely to report marriages to previously married men in the post-reform period. However, the husbands of nonmarital birth mothers were more likely, especially post-reform, to have children from previous relationships. These men have potentially greater financial and filial obligations to nonresidential children and ex-partners.

These estimates are unadjusted for characteristics that may be associated with both women's nonmarital fertility behavior and the quality of their husbands. To address this issue, we now turn to our difference-in-difference models to address this issue. Table 5 presents results from models estimating the relationships between women's nonmarital fertility status and their husbands' education and employment status and family poverty, while controlling for the

woman's education, age, race/ethnicity, and the period of observation (i.e., before and after welfare reform). The first column of this table shows the effects on the likelihood of marrying a man with less than a high school education compared with more than a high school education. The second column provides the effects on marrying a man with high school education compared with more than a high school education. Not surprisingly, a woman's higher education reduces the likelihood of having a spouse with lower levels of education; educational homogamy is the statistical and cultural norm (Schwartz and Mare 2005). But it is also true that a nonmarital first birth is associated with a lower likelihood of marriage to partners with high education, even after controlling for the woman's own educational attainment.

(Table 5 about here)

In addition, the results in Table 5 show that women without a nonmarital birth were less likely to have very low-education partners and nonmarital birth mothers were more likely to have such husbands after 1996. The implication is that nonmarital birth mothers became relatively more likely to form unions with very poorly educated partners after PRWORA was signed into law in 1996. However, estimates reported in the third column of Table 5 show that the husbands of nonmarital mothers were no less likely to be employed than husbands of other women. Their husbands also were no less likely to be employed after than before 1996 compared with the husbands of other women. Only African American nonmarital birth mothers married men who were less likely than the husbands of other women to have jobs.

Unfortunately, employment among husbands is no hedge against poverty. A larger share of nonmarital birth mothers who married was poor after welfare reform than before. The fourth column of Table 5 presents coefficients from a multinomial logit model predicting below-poverty family income versus a family income that is 200 percent or more above the poverty line. The last column presents coefficients for family income ranging from poverty up to twice

(100-to-199 percent) the poverty level versus a family income that is 200 percent or more above the poverty line. In general, the post-reform period was one of reduced family poverty. However, as the interaction term shows, women who had nonmarital first births were relatively more likely to have family incomes below the poverty line after passage of the welfare reform bill than before. The interaction term also shows that these mothers who married post-reform were more likely than other women who married to have low incomes – almost three and a half times ($e^{-1.31+2.54} = 3.42$) more likely than other women to have a below-poverty family income and almost three times ($e^{2+.81} = 2.75$) more likely to have a family income of 100-to-199 percent of poverty versus an income that was at least 200 percent of poverty.

DISCUSSION AND CONCLUSION

The newly reauthorized welfare reform bill has placed marriage promotion squarely on the public policy agenda. Marriage, as a context for childbearing and childrearing, presumably benefits growing children (Amato, 2005; Carlson & McLanahan, 2006) and provides an alternative to welfare dependence (Popenoe, 1998; for caveats, see Lichter et al. 2003; Thomas & Sawhill, 2005). Our study examines the pre- and post-welfare reform marital histories of nonmarital birth mothers, who constitute a substantial and growing share of families receiving cash assistance. Unlike previous studies, we evaluate both transitions into marriage and the "quality" of women's husbands before and after the 1996 welfare reform legislation.

Our results indicate that nonmarital birth mothers face significant disadvantages in the marriage market. Out-of-wedlock childbearing is associated with reduced rates of marriage as well as reductions in the likelihood of marrying "economically attractive" husbands (cf., Bennett et al. 1995; Graefe & Lichter, 2002). Indeed, our results show that nonmarital birth mothers were less likely than other women to marry, both before and after PRWORA. Furthermore, there

is little indication that nonmarital birth mothers overall were any more or less likely to marry after welfare reform than before. On the other hand, comparisons between mothers having the highest risk of welfare participation and women who are unlikely to be affected by welfare policy changes suggest that disadvantaged nonmarital birth mothers (i.e., those with "at risk" family backgrounds and low educations) may have been influenced positively toward marriage after 1996. As a livelihood strategy, highly disadvantaged nonmarital birth mothers may increasingly view marriage as an alternative to TANF or employment. The post-reform period was a time not only of tighter welfare restrictions but also of strong economic growth and increased job opportunities for men and women, which may have strengthened the economic foundations of marriage. This interpretation is consistent with a recent analysis of the New Hope project in Milwaukee, a randomized experiment focused on improving employment and income, which found significantly higher rates of marriage in the experimental than control group (21 versus 12 percent) (Gassman-Pines & Yoshikawa, 2006).

Our results also indicate that, despite a robust economy, nonmarital birth mothers (vis-à-vis other women) were less likely to partner "well" after 1996 than during the pre-welfare-reform period of the early 1990s. The implication is that promoting marriage is unlikely to provide a long-term policy solution to poverty and welfare reliance if the partners of low-income single mothers cannot earn a family wage. Our results support a singularly important conclusion: The probability of partnering with disadvantaged men (e.g., those with low education) increased after the welfare reform bill was passed in 1996. Whether this emerging marriage pattern is a direct consequence of the new welfare reform bill or of the economic exigencies associated with the low-wage labor market is unclear (see Edin and Kefalas 2005). Our results may simply reflect growing income inequality in American society over the past decade, and the deteriorating male marriage pool available to disadvantaged women, including nonmarital birth mothers. Our

results are nevertheless consistent with evidence showing recent increases in positive assortative mating, especially at the lower end of the education distribution (Schwartz & Mare, 2005). Marriage today is less likely to be a route to upward mobility for low-income women (so-called "marriage mobility"). Marriage patterns among the poor may thus have the effect of crystallizing class boundaries while at the same time reinforcing upward trends in family income inequality (Sweeney & Cancian, 2004). To be sure, a stable marriage has many benefits (Waite & Gallagher, 2000). But our results also raise new policy questions about whether marriage promotion among the poor will have the kinds of positive economic benefits envisioned by many of its proponents (see Williams, Sassler, & Nicholson, 2007).

In the end, the success of marriage as a short- or long-term economic solution to poverty depends heavily upon whether women themselves are "marriageable," whether potential spouses have the ability to support a stable family life, and whether partners are well-matched. The evidence presented in this paper suggests that policies designed to reduce nonmarital parenthood may have the salutary effect of improving women's marriageability and the ability to attract an "economically attractive" husband (Kane & Lichter, 2006). Reducing out-of-wedlock childbearing may also increase the efficiency of the marital matching process (see Goldstein and Harknett, 2006; Qian et al., 2005). At the same time, any long-term economic benefits associated with women's marriage will depend in large part on the demographic supply of economically attractive men—those with stable jobs that pay a family or living wage. An obvious policy implication, of course, is that improving both men's and women's economic circumstances may be a precondition for achieving a stable and "healthy" marriage, rather than the other way around.

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Table 1. Characteristics of Study Sample (weighted).

Sample	Characteristics	Mean (sd) or Percentage		
Total Women at Risk of Marriage within 5 Years before Interview (unweighted *n* = 9660)		Total	Women with Nonmarital 1st Birth	Women without Nonmarital 1st Birth
	Nonmarital 1st birth	25 %	100 %	-
	Age at First Birth (years)	21.38 (4.7)	19.91 (4.1)	22.75 (4.9)
	Never Had a Birth	44 %	-	58 %
	Age (years)	30.78 (6.8)	31.11 (6.4)	30.64 (6.9)
	Race/Ethnicity			
	Non-Hispanic, Non-African American	69 %	44 %	77 %
	African American	18 %	37 %	12 %
	Hispanic	13 %	19 %	11 %
	High-Risk Childhood	27 %	40 %	23 %
	Education			
	< High School	15 %	32 %	9 %
	High School	43 %	53 %	40 %
	> High School	42 %	15 %	51 %
	Family Income as % Poverty Level			
	<100 %	20 %	38 %	13 %
	100 to 199 %	22 %	30 %	20 %
	≥200 %	58 %	32 %	67 %
	Married within 5 Years of Interview	29.00%	23 %	31 %
	Post-Reform Sample	54 %	68 %	50 %
Pre-Reform Subsample of Women Who Married (unweighted*n* = 1244)	Nonmarital 1st Birth	12.00%	100 %	-
	Age at First Birth (years)	23 %	20. 37 (3.9)	23.20 (5.14)
	Never Had a Birth	39 %	-	45 %
	Age (years)	30.05 (5.9)	31.05 (5.59)	29.88 (5.97)
	Race/Ethnicity			
	Non-Hispanic, Non-African American	81 %	58 %	84 %
	African American	9 %	26 %	7 %
	Hispanic	10 %	16 %	9 %
	High-Risk Childhood	27 %	47 %	25 %
	Education			
	< High School	15 %	40 %	12 %
	High School	32 %	36 %	31 %
	> High School	53 %	24 %	57 %
	Family Income as % Poverty Level			
	<100 %	7 %	15 %	6 %
	100 to 199 %	17 %	34 %	15 %
	≥200 %	76 %	51 %	79 %
Post-Reform Subsample of Women Who Married (unweighted*n* = 1266)	Nonmarital 1st Birth	24.00%	100 %	-
	Age at First Birth (years)	23.09 (5.3)	20.10 (3.8)	25.09 (5.2)
	Never Had a Birth	32 %	-	42 %
	Age (years)	29.9 (6.0)	30.50 (6.23)	29.78 (5.9)
	Race/Ethnicity			
	Non-Hispanic, Non-African American	76 %	55 %	83 %
	African American	10 %	24 %	5 %
	Hispanic	14 %	21 %	12 %
	High-Risk Childhood	22 %	32 %	19 %
	Education			
	< High School	9 %	20 %	6 %
	High School	51 %	68 %	45 %
	> High School	40 %	12 %	49 %
	Family Income as % Poverty Level			
	<100 %	13 %	25 %	9 %
	100 to 199 %	18 %	31 %	14 %
	≥200 %	69 %	47 %	77 %

Table 2. Logits from Discrete-time Event History Models of the Transition to Marriage for Refined Comparison Groups.

Variables	**Model 1 Women Who Had Birth, Low Risk Childhood**	**Model 2 Women Who Had Birth, High Risk Childhood**	**Model 3 Childless Women, High Risk Childhood**
Nonmarital 1st Birth	-1.00**	-0.48*	
Post-Reform Period	0.32**	1.04**	-.47
Low Education	-0.12	-0.05	0.22
Age at 1st Birth	0.04**	0.03**	
Interactions			
Nonmarital Birth x Low Education	0.46	-0.17	
Post-Reform Period x Low Education	-0.39**	-1.03**	0.15
Nonmarital Birth x Post-Reform Period	-0.03	-1.98**	
Nonmarital Birth x Low Education x Post-Reform Period	-0.06	2.01**, [a]	
-2LogL			
Intercept Model	8910.654	4117.181	1405.420
Full Model	8540.824	3994.026	1390.121
***N* (person-years)**	15527	9253	3615

Note: All models control for duration of observation.

[a] Significantly different from same coefficient for women who had a birth and a low-risk childhood, $p \leq 0.01$.

** $p \leq 0.01$

Table 3. Expected Proportions of Women Who Married for Refined Comparison Groups with Average Age at First Birth, Net the Effect of Duration Year.

Comparison Groups	Proportions in Pre-Reform Period	Proportions in Post-Reform Period	Post-Reform/Pre-Reform Ratio
Nonmarital 1st Birth Mothers			
Low-Risk, Low Education	.06	.05	.83
Low-Risk, High Education	.04	.03	.75
High-Risk, Low Education	.05	.05	1.00
High-Risk, High Education	.06	.03	.50
Marital 1st Birth Mothers			
Low-Risk, Low Education	.10	.05	.50
Low-Risk, High Education	.11	.15	1.36
High-Risk, Low Education	.09	.09	1.00
High-Risk, High Education	.09	.23	2.55
Childless Women			
High-Risk, Low Education	.06	.04	.67
High-Risk, High Education	.05	.03	.60

Table 4. Proportion of Husbands Having Each Characteristic, by Woman's Nonmarital Fertility, before and after Welfare Reform.

		Current/Most Recent Partner Characteristics					
		Education					
Period	Nonmarital Fertility	< High School	High School	> High School	Employed	Previously Married	Children from Previous Relationship
Pre-Reform (*n*=1244)	No Nonmarital 1st Birth	9.63	37.44	52.65	90.61	33.23	10.01
	Nonmarital 1st Birth	23.46	46.45	29.87	87.01	37.2	10.75
Post-Reform (*n*=1266)	No Nonmarital 1st Birth	7.16	42.58	50.17	92.03	24.89	9.11
	Nonmarital 1st Birth	25.2	52.82	21.98	86.98	27.36	14.04

Table 5. Coefficients from Logistic Regression Models Predicting Husband's Education, Husband's Employment Status, and Family Poverty, by Fertility Status, Pre- and Post-Welfare Reform (*n*=2510 Married Women, Age 21-45).

	Compared with > High School, Husband's Education Is[a]:		Compared with Not Working, Husband Is:	Compared with ≥200% Poverty Level, Family Income Is[a]:	
Variables	< High School	High School	Not Employed	<100% Poverty Level	100-199% Poverty Level
Intercept	6.33**	5.49**	1.51	5.55**	11.19**
Woman's Age	-0.23*	-0.18**	-0.22*	-0.12	-0.53**
Woman's Age^2	0.004*	0.003**	0.003*	0	0.007**
Woman's Education	-1.99**	-1.17**	-0.08	-0.27**	-0.77**
Woman's Race Ethnicity					
African American	-0.6	0.03	0.76**	0.87**	0.01
Hispanic	1.05**	0.44*	0.14	1.63**	0.61**
Nonmarital 1st Birth	0.56*	0.28	0.36	-1.31**	0.2
Post-Reform Period	-0.39*	0.09	-0.31	-5.11**	-2.13**
Nonmarital Birth * Post-Reform	0.88**	0.28	0.04	2.54**	0.81*
Likelihood Ratio (df)	1022.61** (842)		22.34** (8)	1064.35** (842)	

[a] Multinomial logit model.

*$p \leq 0.05$

**$p \leq 0.01$

Figure 1. Cumulative Proportion of Women Marrying, 1991-1995 and 1998-2002, by Nonmarital Fertility Status.