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Racial Disparities in Men's Health and the Transition to Marriage Among Unmarried Fathers

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Abstract

This article uses data from the Fragile Families and Child Well-being Survey to examine the association between transitioning to marriage and general health status or serious health problems among low-income men. Beginning with a sample of 3,631 unmarried fathers, the study observes the relationship between their transitions to marriage within 3 years after the birth of their child and their health status 5 years postbirth. The authors also explore if unmarried fathers benefit from marrying mothers who have health insurance. Results indicate that transitions to marriage and transitions to marriage with mothers who have health insurance, are associated with fewer serious health problems. The authors did not observe a significant relationship between transitioning to marriage and general health, likely because the sample comprised men who were young (average age was 26 years) and in very good health.

Keywords

marriage, cohabitation, health, low-income fathers, insurance

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Introduction

That married men generally enjoy better health than unmarried men is well documented, as are the lower marriage rates of African American men relative to men of other racial and ethnic groups. The first article in this issue (Koball, Moiduddin, Henderson, Goesling, & Besculides, 2010) provides a general overview of the research literature on the relationship between marriage and health. For African American men, particularly those with low incomes, marriage might lead to changes in behaviors that can affect health. For example, research suggests that after marrying, low-income African American men spend less time "hanging out" with other unmarried African American men (Anderson, 2000; England & Shafer, 2007), thereby lowering their chances of homicides or unintentional injuries (Anderson, 2000). Those experiences could result in physical harm and stress, which, in turn, raise health risks for them and other members of low-income communities (Brunson, 2007; Ross & Mirowsky, 2001). Marriage, however, might not lead to better health or changes in behavior that lead to better health. Instead, causality might run in the other direction, such that poorer health (or the predictors of poor health) among African American men might reduce their chances of marrying.

Differential access to health insurance is another possible contributor to health disparities between young White and African American men. Most Americans obtain health insurance through their employers or the employers of their spouses. Besides having lower marriage rates, African American men have lower employment rates than similarly educated men of other racial and ethnic groups (Holzer & Offner, 2006). Employers provide more generous health insurance coverage for workers with higher educational and occupational status. For example, 33.8% of people with less than a high school diploma were uninsured at some point in 2006 compared with 14.7% of people with more than a high school diploma or General Equivalency Diploma (Cohen & Martinez, 2007). Because young African American men are concentrated in lower paid occupations, they are less likely than young White men to have employer-provided health insurance or insurance with low copayments, even if they are employed (Brown, Ojeda, Wyn, & Levan, 2000). Furthermore, men are less likely to have access to publicly funded health coverage. Women have a greater likelihood of having Medicaid coverage after having children than men. Thus, low- to moderate-income African American men face particularly low levels of access to both employer-provided and public health insurance.

Without health insurance, African American men in poor health or with injuries appear particularly unable to get the health care that they need. African American men in fair or poor health are less likely than African American women in similar health to see a doctor (Brown et al., 2000). Lack of insurance can have deleterious consequences: Uninsured African American men are less likely than insured African American men to obtain care for high blood pressure (Hill et al., 1999), a condition that may lead to stroke, a leading cause of death among African American men.

Thus, it may be that marital status and health insurance coverage operate jointly to increase the health and morbidity risks of low- and moderate-income African American men compared with other populations. Thus, by extension, unmarried fathers who marry should exhibit the direct and indirect benefits (through access to their wives' health insurance) of marriage on their health. The purpose of this article is to test for such effects. In particular, we ask the following questions:

1. Is there a relationship between transitions to marriage and health status among low- to moderate-income men whose partners had an unmarried birth?
2. If so, is the relationship between transitions to marriage and health that African American fathers experience different from the relationship between transitions to marriage and health that White and other fathers experience?
3. Does access to a wife's health insurance partially explain the relationship between transitions to marriage and health?
4. Do racial differences in transitions to marriage help explain racial differences in the health status of low- to moderate-income unmarried fathers?

The next section of this article reviews the literature on marriage and men's health and explains the special relevance to low-income African American men, including the role of employer-provided and public health insurance. This section also discusses the issue of selection bias and identifies hypotheses about the effects of transitions to marriage on the health status of low-income to moderate-income unmarried fathers. The next section describes our data and methods for estimating these effects. Then we describe our hypothesis tests and results, followed by a discussion of our findings and the limitations of the study. The final section discusses our conclusion and implications for policy and future research.

The Effects of Marriage and Health Insurance on Men's Health

The association between marriage and good health is well documented (Stutzer & Frey, 2006; Waite, Bachrach, Hindin, Thomson, & Thornton, 2000; Waite & Gallagher, 2000; Wu, Penning, Pollard, & Hart, 2003). Researchers have found that the health benefits of marriage are stronger for men than for women, suggesting that wives are more likely to enhance their husbands' health than the reverse (Waite et al., 2000). Additionally, married men are more likely to spend free time with their wives, whereas their unmarried counterparts are more likely to spend time in individual pursuits (Waite & Gallagher, 2000). Among young, low- to moderate-income men, these pursuits may include being "out with [their] boys" in "the streets" (Anderson, 2000; England & Shafer, 2007), which increases the chances of homicides or unintentional injuries (Anderson, 2000).

Married men are also more likely than their unmarried peers to avoid risky health behaviors. Waite et al. (2000) provide two explanations for this: First, wives are more likely than cohabiting partners or girlfriends to warn their partners about risky health behaviors and schedule their partners' doctors' appointments directly. Evidence suggests that gender socialization makes women more aware of the need to attend to health than men (Courtenay, 2000; Moynihan, 1998). For example, research suggests that men are more likely than women to avoid medical care because they feel they are supposed to be tough or because they are "stubborn" (Royster, Richmond, Eng, & Margolis, 2006). Some men are less likely to practice healthy behaviors because they feel they are not susceptible to risk (Royster et al., 2006). In particular, men who espouse dominant views of masculinity are less likely than men who do not espouse these views to consider their health to be a priority, which is reflected in their greater propensity to take part in behaviors that pose a health risk, such as engaging in riskier sexual behaviors, playing sports, fighting, drinking alcohol, and smoking (Courtenay, 2000). Second, marriage might provide a sense of meaning and importance to men. These feelings, coupled with the knowledge that potential illnesses and injuries would adversely affect their wives and children, might increase their mindfulness of their health.

There is also evidence that marriage is associated with better mental health (Wu et al., 2003). Marcussen (2005) argues that married couples enjoy better mental health than cohabiting couples because the former have higher quality relationships and more effective coping resources than the latter. Bierman, Fazio, and Milkie (2006) find that married people found more purpose in life than unmarried

people, which they attribute to greater socioeconomic and psychosocial resources among those who are married.

Despite this evidence, the direct association between marriage and health may not be entirely causal. Some researchers argue that happier and healthier people are more attractive to potential spouses. Similarly, people with high earnings may be more attractive as potential marriage partners (Lichter, LeClere, & McLaughlin, 1991), but they are also likely to be in better health. Put differently, personal characteristics—some of which are not easily measured in research—might motivate people into marriage.

The empirical evidence on the role of selection is mixed. Goldman (1993), for example, finds evidence for selection in the association between marital status and physical health, but Wu et al. (2003) do not. Similarly, Stutzer and Frey (2006) find evidence that selection plays a role in the association between marriage and mental well-being, but Marcussen (2005) does not.

Another important predictor of health status is health insurance (Levy & Meltzer, 2001). Men who are uninsured are less likely to receive follow-up care after unintentional injuries or newly diagnosed chronic conditions and take longer to recover fully after their accidents or diagnoses (Hadley, 2007). Families and individuals obtain health insurance in different ways. For example, although married and single-parent families are insured at similar rates, married families are more likely to have employer-provided insurance, and single-parent families are more likely to have publicly funded insurance (such as Medicaid or the State Children's Health Insurance Program; Goesling & Koball, 2008).

Options for obtaining health insurance could be critical for unmarried, low- to moderate-income men, because they are less likely than their female counterparts to be eligible for publicly funded coverage. For instance, although such men may be income eligible for Medicaid, they usually do not meet other eligibility requirements. Typically, Medicaid recipients include low-income pregnant women, poor children up to age 19 years (with an expanding income definition for children younger than 6 years), certain caretakers of children, people with disabilities, and some current or former welfare recipients (Department of Health and Human Services, 2005; Treadwell & Ro, 2003).[1] Because low-income men are far less likely to be caretakers of their children, they are much less likely than low-income women to receive Medicaid.

Low-income men also lack health insurance because they work in lowly paid occupations and have high unemployment rates. Many employers either do not offer health insurance to workers in lowly paid occupations or require such employees to pay high premiums. As a result, workers in lowly paid occupations tend not to participate in employer-provided plans (Chernew,

Cutler, & Keenan, 2005). Additionally, because most Americans get their health insurance through their employers, unemployed men are overrepresented among the uninsured (Royster et al., 2006). Further affecting access to care, low-income men and other employees in low-status occupations often do not have sick leave, so they do not take time off until they are so sick they cannot work (Royster et al., 2006).

The late 1990s, the focus of this study, offers a particularly instructive time period to examine how marriage affected men's access to health insurance and their health. Employment among less educated women increased dramatically in the late 1990s because of a sustained economic expansion, strict work requirements in welfare programs, and the expansion of the Earned Income Tax Credit in 1993 (Blank & Schmidt, 2001). This sustained economic expansion also temporarily arrested a decline in the wages of less educated men, which had been occurring since the mid-1970s (Holzer & Offner, 2006). As employment increased among less educated women, some were able to obtain employer-provided health insurance. Less educated men (including fathers) who married during the late 1990s could have increased access to insurance through marriage by obtaining access to their wives' health insurance. By contrast, because the employment rate of less educated men was fairly stagnant during this period, direct access to employer-provided health insurance would have been unchanged for less educated unmarried fathers who remained single (Holzer & Offner, 2006).

These trends may have had several important implications for the health status of low-income African American men: First, nearly 70% of African American children were born to unmarried parents, and African American men have been overrepresented among unmarried fathers (Hamilton, Martin, & Ventura, 2006). Only 7.4% of all young (16- to 24-year-olds) African American men with no more than a high school diploma were married in 2001, about half the rate of less educated White men (14.2%; Mincy, Lewis, & Han, 2006). Second, during the 1990s, the employment and labor force participation rates of less educated African American men fell. As mentioned above, when employed, their wages remained static; however, other young less educated men's wages rose during the late 1990s (Holzer & Offner, 2006). For these and other reasons, the decline in marriage rates among African Americans continued unabated throughout the 1990s (Lichter, McLaughlin, & Ribar, 2002).

The literature on marriage, health insurance, and men's health suggests that transitions to marriage should result in improvements in the health of low- to moderate-income unmarried fathers. Our strategy for examining whether such a relationship is causal relies on temporal ordering and the use of rich

controls for factors that select men into marriage as a means to limit reverse causation and spurious correlations as possible explanations for the relationship between marital status and health status in our data.

The literature also provides us with some direction as to the nature of the possible effects of the transition to marriage. The direct effects of transitions to marriage on health derive from the greater exposure of married (vs. unmarried) men to the health conscious influence of women and the greater tendency of married (v. unmarried) men to take into account the consequences of their risky health behaviors for others (e.g., partners and children; Waite et al., 2000). Because after controlling for education and income, we know of no evidence of racial differences in the health consciousness of women, we see no reason to hypothesize racial differences in the direct effects of transitions to marriage on the health of unmarried fathers. In addition, some of the benefits of marriage on men's health result from access to their wives' private or employer-provided health insurance. Therefore, we expect unmarried fathers who transition to marriage to be in better health than unmarried fathers who remain single.

If there are racial differences in the health benefits of transitions to marriage, access to private or employer-provided insurance is a plausible explanation, as the higher socioeconomic status of White women confers an increased chance for their partners to gain access to health insurance. Finally, we hypothesize that racial differences in transitions to marriage partially explain racial disparities in the health status of low- and moderate-income unmarried men. More specifically, low- and moderate-income African American unmarried fathers will be in poorer health than their White (and other) counterparts because the former are less likely than the latter to experience the direct and indirect benefits of marriage on health.

Data and Method

Data

This study relies on the Fragile Families and Child Well-Being Survey (FFCWS; Reichman, Teitler, Garfinkel, & McLanahan, 2001). FFCWS is a birth cohort, panel survey that when weighted is nationally representative of births occurring in 1998-2000 in large metropolitan areas. Interviews were conducted with both parents in the hospital after the birth of their children; follow-up interviews were conducted 12, 36, and 60 months later. The richness of the FFCWS data will help us control for unobserved heterogeneity that has compromised previous attempts to control for selection into marriage. Our

analysis uses all four waves and is restricted to fathers who were unmarried at baseline and alive in all waves.

These data are ideal for the study of the health status of young unmarried fathers not only because of the large sample of such fathers, but also because they contain detailed longitudinal economic, health status, and behavioral information collected independently from both the mothers and the fathers. The survey includes a large oversample of nonmarital births, which is the main data for our study. It also offers a significant advantage over other data sources that suffer from underrepresentation problems (Hofferth, Pleck, Stueve, Bianchi, & Sayer, 2002). However, although the response rate among fathers in FFCWS was very high (75%) at baseline, it declined over time (to 66% at 60 months). (This is presumably because unwed fathers' often tenuous connections to households made them hard to find in nationally representative surveys and because many refuse to admit to survey researchers that they have fathered children.) To compensate for missing data caused by fathers' attrition and other factors, we used multiple imputation (MI) to impute their answers into the data set.

MI uses multivariate prediction algorithms to create complete data sets, which are based on different prediction equations and thus incorporate sampling variability for each variable with missing data. We created five imputed data sets using these methods. Data analysis on multiply imputed data combines information from each imputed data set and derives model estimates that incorporate the variability across the different data sets. The MI procedure for this study was undertaken using the Multiple Imputation with Chained Equations (MICE) software package (Royston, 2007) with STATA 10-SE.

To analyze surveys that include missing data, researchers usually use complete case samples by dropping observations that are missing data for any variable included in their empirical model. However, doing so implicitly makes the assumption that data are missing completely at random (Little & Rubin, 2002); that is, each dropped observation has the same probability of being missing (Gelman & Hill, 2006). This assumption fails if some observations are missing for reasons related to other factors. For example, in analysis (not shown), we found that the probability that a father was missing from our data was associated with the father's race/ethnicity, U.S.-born status, and education. Instead, MI relies on a less stringent assumption that data are missing based (only) on available information—the missing at random assumption (Gelman & Hill, 2006). Although the missing at random assumption is not formally testable, it is more plausible than the assumption that data are missing completely at random (Gelman & Hill, 2006).

Measures and Method

To examine whether marriage affects health outcomes, rather than the reverse, we impose a temporal ordering of the variables (outcomes observed at 5 years, marriage observed at 1 and 3 years, and other controls observed at baseline), which is consistent with the presumed causal hypothesis (Mincy, Hill, & Sinkewicz, 2009).

Outcomes. The outcomes include general health status and the number of serious health problems, both of which we measure when the child is 60 months old. The first measure is a Likert-type scale, with five options for the father to describe his general health: (1) *poor*, (2) *fair*, (3) *good*, (4) *very good*, and (5) *excellent*. Thus the father's actual health status is an unobservable latent value, but the observed variable is categorical and ordered. We use ordered probit regression to analyze this outcome. The second measure—how many serious health problems the father has when children are 5 years old—is continuous. There are eight possible serious health problems a man could have: diabetes, asthma, high blood pressure, pain, seizure/epilepsy, heart disease, back problems, and others. Thus, we created a measure equal to the number of serious health problems a respondent reported having, with a range of values from 0 to 8.

Key independent variables. We use two forms of our treatment variable. The first is a dummy variable that takes a value of 1 for fathers who married the mothers of their children in Wave 2 and remained married at Wave 3 and those who were married at Wave 3, taking a value of 0 otherwise. This means that fathers who marry and later divorce or separate from the mothers of their children between Waves 2 and 3 are considered unmarried for the purpose of our analysis. (Further disaggregation of our treatment variable into married, divorced/separated, and never married would have resulted in small cell sizes for the divorced category and large standard errors.) We call this variable transition to marriage.

The second form of our treatment variable involves three dummy variables. The first takes a value of 1 for fathers who transition to marriage (as defined earlier) and do not access their wives' health insurance and 0 otherwise. The second takes a value of 1 for fathers who transition to marriage (as defined earlier) and access their wives' health insurance and 0 otherwise. The third takes a value of 1 for fathers who do not transition to marriage or who transition and later divorce and 0 otherwise. When we estimate models using this form of our treatment variable, we omit the third (never married/divorced/separated) variable from the analysis.

Control and confounding variables. All control and confounding variables are measured at baseline. The confounding covariates predict both health and

union status. Our demographic confounders include age, race/ethnicity, and immigration status. We use a set of dummy variables to measure race/ethnicity: African American (non-Hispanic), Hispanic (any race), and White/Other (non-Hispanic). In keeping with our focus on African American fathers, we restrict our discussion and presentation of results to African Americans and include fathers who identify as White/Other in the omitted category. The step to combine fathers who identified as White and Other into a single category was motivated by the relatively small number of other fathers. Analyses of the Hispanic fathers are available from the authors on request. In addition, to explore our research question, which sought to determine whether the causal relationship between transitions to marriage and health was different for African American men than for other men, we include an interaction term between the African American and transition to marriage indicators.

We also include a measure of household income, logged household income, the father's employment status, measures related to the father's receipt of public assistance, and a measure of the father's family background. These measures are proxies for pretreatment income, which is positively associated with health status. The average individual income at baselines in the FFCWS was less than $20,000 (McLanahan et al., 2003). Household income (reported) is greater than individual income (not reported). Higher incomes give people access to more resources, such as food, housing, and social support, which are associated with better health (Lantz et al., 2001). For this reason, Isaacs and Schroeder (2004) argue that socioeconomic class has a larger effect on health than race does.

To measure receipt of public assistance, we define a dummy variable that takes a value of 1 if the father is on public assistance (Father on Public Assistance) and a 0 otherwise. To measure the father's employment status and family background we include a dummy variable (Father Employed) that takes a value of 1 if the father is employed and a 0 otherwise and a dummy variable (Live with Biological Father) that takes a value of 1 if the father lived with his own biological father at age 15 years and a 0 otherwise.

We included measures of educational attainment, which are associated with both marital status and health. We include three dummy variables to measure educational attainment (High School Diploma or GED, Some College or Associate's Degree, and College or More). The omitted category is Less than High School. Higher education is associated with better health for many reasons, including the ability to make better health decisions and higher earnings, which enable people to obtain more nutritious food or better access to health care (Lantz et al., 2001; Woolfe, Johnson, Phillips, & Philipsen, 2007).

We included self-reported, health-related confounders, such as depression, smoking status, substance abuse, and the father's report of his general health status at baseline. Except for depression, each of these measures is a dummy variable. We derive our measure of depression from a father's self-report of feeling depressed. There is no measure of serious health problems at baseline.

Finally, we included a dummy variable (Father's Religious Attendance) that we coded as 1 if the father indicated he attended religious services and 0 otherwise. Religiosity is positively associated with marriage and negatively associated with risk behaviors (e.g., smoking and substance abuse), which would lead to poor health outcomes (Wilcox & Wolfinger, 2008).

As stated earlier, we employed temporal ordering to examine the effect of transitioning to marriage on general and serious health in Year 5. We used ordinary least squares (OLS) regression to measure the effect of transitioning to marriage on the number of serious health problems and ordered probit regression to estimate the effects of transitioning to marriage on general health. The latter is a maximum likelihood estimator of the coefficients of models in which the dependent variable is categorical and ordered (Maddala, 1993).

Results

The entire sample of unmarried fathers was in good health when children were about 5 years old (3.767; see Table 1, Full Sample column). This was a slight decrease from the baseline, at which the average father was in very good health (General Health at Baseline = 3.955). Approximately 12% of the fathers had a serious health problem when their children were 5 years old. The average number of serious health problems is less than one, because the overwhelming majority had no such problems. Less than one fifth (approximately 17%) of the fathers had married the mother of their child; however, few of these fathers had access to their wives' health insurance.

Most fathers had low levels of education: 35% had less than a high school diploma, 40% had a high school diploma or a GED, 22% had some college, and only 4% had a college degree or more. Fifteen percent of the fathers were immigrants. Most fathers did not smoke cigarettes (smokers 13%). More than a quarter of the fathers attended religious services, almost two fifths had lived with their biological father when they were 15 years old, and only 5% of the fathers had a history of incarceration. In contrast, 33% of the fathers were depressed. Approximately a quarter of the fathers were substance abusers. Most were African American (56%) and White/Other (15%). Although

Table 1. Descriptive Statistics

	Full Sample	African American Sample	White/Other Sample	Cohab Sample	Noncohab Sample
Outcome variables					
Health status at 5 years	3.767 (1.051)	3.774 (1.047)	3.735 (1.039)	3.796 (1.008)	3.740 (1.089)
Serious health problems	0.118	0.096	0.290***	0.111	0.125
Number of serious health problems at 5 years	0.160 (0.508)	0.128 (0.454)	0.412*** (0.796)	0.147 (0.484)	0.171
Key independent variables					
Transition to marriage	0.168	0.110	0.247***	0.245***	0.095
Transition to marriage with wife's insurance	0.023	0.018	0.034***	0.032***	0.081
Transition to marriage without wife's insurance	0.145	0.092	0.213***	0.213***	0.014
No transition	0.832	0.890	0.753***	0.755***	0.905
Control variables					
African American	0.561			0.451	0.664
White/Other	0.149			0.188	0.111
Hispanic	0.290			0.360	0.225

(continued)

Table 1. (continued)

	Full Sample	African American Sample	White/Other Sample	Cohab Sample	Noncohab Sample
General health at baseline	3.955 (0.959)	4.048 (0.937)	3.894* (0.915)	3.929 (0.941)	3.980 (0.975)
Insured at baseline	0.565	0.597	0.591	0.559	0.570
Age	26.800 (7.140)	26.961 (7.442)	26.991 (6.925)	27.091* (6.844)	26.529 (7.396)
Father employed	0.754	0.695	0.842***	0.813***	0.699
Household income	463.60 (438.74)	419.95 (394.27)	633.09*** (555.06)	515.80*** (458.96)	414.810 (413.054)
Household income (logged)	5.586 (1.146)	6.000*** (1.197)	5.842*** (1.062)	5.515 (1.251)	
Father on public assistance	0.069	0.056	0.052	0.091***	0.049
Mother has private insurance	0.204	0.198	0.308***	0.227***	0.182
Mother on Medicaid	0.738	0.743	0.632***	0.720*	0.755
Mother has both private insurance and Medicaid	0.002	0.003	0.002	0.002	0.003
Mother uninsured	0.056	0.056	0.057***	0.051	0.061
Less than high school degree	0.354	0.293	0.260	0.385***	0.325
High school diploma or GED	0.395	0.455	0.387**	0.356***	0.431

(continued)

Table 1. (continued)

	Full Sample	African American Sample	White/Other Sample	Cohab Sample	Noncohab Sample
Some college or associate's degree	0.216	0.224	0.275*	0.224	0.207
College or more	0.035	0.028	0.078***	0.034	0.036
Depression	0.328	0.345	0.288*	0.301**	0.353
Smoker	0.129	0.114	0.274***	0.130	0.127
Immigrant	0.148	0.040	0.108***	0.195***	0.104
Father incarcerated	0.048	0.061	0.282**	0.023***	0.072
Substance abuse	0.247	0.264	0.276	0.266	0.239
Father attends religious services	0.263	0.269	0.179***	0.250	0.276
Lived with biological father	0.384	0.288	0.462***	0.423***	0.349
	$N = 3,631$	$N = 2,038$	$N = 539$	$N = 1,755$	$N = 1,877$

Note: Values indicate means with standard deviations in parentheses.
*$p < .05$. **$p < .01$. ***$p < .001$.

racial differences in the predictors of health status were a central focus of our study, we also have noted some of the characteristics of the sample that should have affected the health status of young fathers generally. The average age of the sample was 26.8 years (Table 1, Full Sample column). This relatively young age might explain why the measures of general health were positive and serious health problems were rare. Approximately 75% of the fathers were employed and had a weekly income of $463.60; only 7% were on public assistance. Almost all mothers had health insurance of some kind: 20% had private health insurance, 74% had Medicaid, and 0.2% of the mothers had both private insurance and Medicaid. In contrast, 43% of the fathers were uninsured. This is consistent with Medicaid being an option through which low-income mothers, but not low-income fathers, obtained health insurance, as described earlier.

African American fathers had significantly fewer serious health problems than White/Other fathers, although the racial differences in the index of general health at 5 years were not statistically significant. Further analyses indicated that this was largely driven by fathers in the other race/ethnicity category who had a relatively large number of serious health problems. African American fathers were significantly less likely to transition to marriage than White or Other fathers (Table 1, African American and White/Other Sample columns). Reflecting the high correlation between race and socioeconomic characteristics, African American fathers were almost 20% less likely to be employed than their White/Other peers at baseline, but surprisingly they were no less likely to be insured, indicating that White/Other fathers did not enroll or did not have access to insurance coverage at higher rates than African American fathers. On average, White/Other fathers earned approximately $214 more per week than African American fathers. African American mothers were less likely to have private health insurance and more likely to be on Medicaid than White/Other mothers. The proportion of White/Other fathers with postsecondary education was higher than the proportion of African American fathers with postsecondary education. White/Other fathers were more likely to have a history of incarceration than African American fathers. Finally, White/Other fathers were much more likely than African American fathers to have lived with their biological fathers as teenagers, but they were less likely to attend religious services.

Fathers who cohabited at birth (hereafter, cohabiters) were more likely than the overall sample to transition to marriage and more likely to gain access to health insurance through their wives' employment when they married. This suggests that for some at least cohabitation was a trial run or a temporary union used by parents who were ultimately planning to marry (Table 1, Noncohab

Sample column).This and other characteristics of cohabiters suggest that selection (on observable characteristics) into cohabitation was present in our sample. Cohabiters were less likely to be African American, slightly older, and exhibited less depression than the full sample (Table 1, Cohab Sample column). They were less likely to be insured than the full sample of fathers. Their health at baseline was rated slightly lower than the entire sample at baseline (3.929) but higher when their children were 5 years old (3.796). Only 11% of the cohabiters suffered serious health problems when their children were 5 years old. Most cohabiters had less than a high school diploma (39%), followed by a high school diploma or GED (36%), some college or an associates' degree (22%), and then a college degree or more (3%). Cohabiters also had higher employment rates and had slightly higher incomes (more than $50 more) than the entire sample, but lower rates than their married peers. They were more likely to abuse substances but less likely to have a history of incarceration. The cohabiters were less likely to attend religious services. They were more likely to have lived with their biological fathers when they were younger. Their baby's mothers were more likely have private insurance.

The fathers who were not cohabitating with their children's mothers at baseline were similar to their cohabitating peers in terms of health (Table 1, Noncohab Sample column). At baseline, they were slightly healthier than their cohabitating peers (3.980); when their children were 5 years old, they were slightly less healthy (3.740). Though they were more likely to have a serious health problem (13%) and to have more health problems after 5 years (17%), these differences were not significant. It is not surprising that differences among all three transitioning to marriage variables—transition to marriage, transition to marriage with wives' insurance, and transition to marriage without wives' insurance—were highly significant between these two groups. Cohabiters were more likely to transition to marriage, but less likely to transition to marriage with an insured spouse. Noncohabiters were younger, slightly less likely to be insured at baseline, and exhibited more depression than cohabiters. They were more likely to have a history of incarceration and to be immigrants than their cohabiting peers.

We now turn to our main research questions: Is there a causal relationship between transitions to marriage and health status among low- to moderate-income men whose partners had an unmarried birth? If so, are the health benefits from transitioning to marriage for African American fathers any different from the health benefits for White/Other unmarried fathers? Does access to wives' health insurance partially explain any relationship between marriage and health? Do racial differences in marriage help explain racial differences in health status of low- to moderate-income unmarried fathers?

Table 2. Bivariate Models

	Full Sample	Cohab Sample
General health model		
Transition to marriage	.037 (.052)	.024 (.061)
Observations	3,631	1,756
Serious health model		
Transition to marriage	−.040 (.025)	−.033 (.033)
Observations	3,631	1,756

Note: Standard errors in parentheses.

Bivariate Results

In Table 2, we show the results of an ordered probit regression of general health and an OLS regression of the number of serious health problems on our main treatment variable with no other predictors. The relationship between transition to marriage and general health is in the expected (positive) direction in the full and cohabitation samples, but neither is statistically significant. One plausible explanation for the lack of significant results is that the fathers in our sample are so young and are in such good health at baseline that transitions to marriage within 5 years have had little chance of showing an improvement in their general health. In further analyses, introducing controls into the model did not change the results (not shown, available on request). As expected, there is a negative association for transitioning to marriage on the number of serious health problems in the full and cohabitating samples. But neither of these is statistically significant. We explore these results further in the multivariate analysis described below.

Multivariate Results

Serious health problems. In Table 3, we show the results of our OLS regression predicting the number of serious health problems, including transitions to marriage, our measures of insurance, and all other predictors. These are OLS regression coefficients. In the full sample, a father who transitioned to marriage had 0.06 fewer serious health problems than a father who did not transition to marriage. (Recall that the average father did not have any serious health problems, therefore the effect size is less than one). Transitioning to marriage has a negative association with the number of serious health problems in both the full and cohabitating samples, but only the former is

Table 3. Ordinary Least Squares Regression Model: Number of Serious Health Problems

	Full Sample	Full Sample With Interactions	Cohab Sample	Cohab Sample With Interactions
Key independent variables				
Transition to marriage	−.060* (.025)	−.071* (.032)	−.048 (.033)	−.054 (.037)
Control variables				
Hispanic[a]	−.371*** (.049)	−.371*** (.049)	−.320*** (.051)	−.320*** (.051)
African American[a]	−.314*** (.043)	−.318*** (.045)	−.254*** (.047)	−.258*** (.051)
African American[b] transition to marriage		.028 (.039)		.016 (.050)
General health at baseline	−.048*** (.014)	−.048*** (.014)	−.043* (.017)	−.043* (.017)
Father insured at baseline	−.006 (.022)	−.006 (.022)	−.010 (.029)	−.010 (.029)
Age (range = 15-80 years)	.004+ (.002)	.004+ (.002)	.002 (.002)	.002 (.002)
Father employed	−.059+ (.030)	−.059+ (.030)	−.070+ (.041)	−.070+ (.041)
Father's income (logged)	−.007 (.011)	−.008 (.011)	.001 (.014)	.001 (.014)
Father on public assistance	.030 (.045)	.031 (.045)	.002 (.053)	.002 (.053)
Mother has private insurance	.008 (.039)	.008 (.039)	−.015 (.068)	−.014 (.068)
Mother on Medicaid	.041 (.039)	.041 (.039)	.011 (.063)	.011 (.063)

(continued)

statistically significant (Table 3, Full Sample column). The coefficient is not statistically significant in the cohabiting samples; cohabiting men have experienced some of the health benefits of living with women. This might also be

Table 3. (continued)

	Full Sample	Full Sample With Interactions	Cohab Sample	Cohab Sample With Interactions
Mother has both private insurance and Medicaid	.080 (.080)	.081 (.212)	.215 (.282)	.217 (.281)
High school diploma[b]	−.002 (.026)	−.002 (.026)	−.017 (.036)	−.017 (.036)
Some college or associate's degree[b]	−.022 (.035)	−.021 (.036)	−.030 (.034)	−.030 (.034)
College or more[b]	−.036 (.056)	−.037 (.056)	−.016 (.059)	−.017 (.060)
Depression	.039 (.025)	.039 (.025)	.045 (.033)	.044 (.033)
Smoker	−.032 (.035)	−.032 (.035)	−.021 (.048)	−.021 (.048)
Immigrant	−.069 (.045)	.070 (.044)	.068^{+} (.041)	.068^{+} (.041)
Father history of incarceration	−.026 (.045)	−.025 (.045)	.025 (.071)	.025 (.071)
Substance abuse	−.019 (.026)	−.019 (.026)	−.012 (.030)	−.012 (.030)
Religious attendance	.060^{+} (.033)	.060^{+} (.033)	.048 (.040)	.047 (.040)
Live with biological father	−.019 (.023)	−.019 (.023)	−.018 (.028)	−.018 (.028)
Observations	3,631	3,631	1,756	1,756

Note: Standard errors in parentheses.
a. White/Other is the reference category.
b. Less than high school diploma is the reference category.
*$p < .05$. ***$p < .001$. +$p < .1$.

a result of selection. Our results also show that African American fathers have fewer serious health problems (0.31) than White and other fathers in both the full and cohabiting samples. The earlier discussion of the descriptive statistics suggests that these results might be driven by fathers in the Other group.

General health at baseline has significant and negative associations with the number of serious health problems in both the full and cohabiting samples.

Besides these, no other predictors are significantly associated with the number of serious health problems. Age, employment, and religious attendance have marginally significant associations with the number of serious health problems; among these, only education is also significant in the cohabitation sample. Moreover, the positive sign of the association between the number of serious health problems and religious attendance is unexpected. A possible explanation is that fathers cope with serious health problems by deepening their commitment to a spiritual life and seeking the support and comfort of similarly minded people. However, the temporal ordering of our model argues against this interpretation, and we are hesitant to overemphasize this finding, lacking more statistically robust results.

Next we examine whether the transition to marriage has a different relationship with the number of serious health problems among African American fathers, relative to White and Other fathers (Table 3) by adding an interaction variable (African American and transitioning to marriage) to the basic model. This interaction term is not significant in either the full (Table 3, Full Sample with Interactions column) or cohabiting (Table 3, Cohab Sample with Interactions column) samples, suggesting that there is no difference between African American and White/Other fathers in the way transitions to marriage are related to serious health problems. In addition, the coefficients of the other predictors are nearly identical in the basic and interaction models.

Next we examine the question: "Does access to wives' health insurance partially explain the relationship between marriage and the number of serious health problems?" To do this, we decompose our treatment variable, transition to marriage or not, into three dummy variables: (a) transition to marriage and does not access wife's health insurance, (b) transition to marriage and accesses wife's health insurance, and (c) does not transition to marriage. We omit the third variable from the model. As we have established that transitioning to marriage does not affect general health in this young sample, we will not examine the effects of transitioning and mother's insurance on father's general health.

Transitioning to marriage and acquiring the mother's insurance had a negative and significant association with the number of serious health problems in the full sample (Table 4, Full Sample column), but this relationship was not significant in the cohabitating sample (Table 4, Cohab Sample column).[2] Specifically, fathers who transitioned to marriage with their wife's health insurance had 0.06 fewer serious health problems than fathers who did not transition to marriage. No significant result was found for transitioning to marriage without the wife's health insurance. Note that the coefficients for

Table 4. Ordinary Least Squares Regression Model: Number of Serious Health Problems

	Full Sample	Cohab Sample
Key independent variables		
Transition to marriage with wife's insurance	−.060* (.025)	−.050 (.033)
Transition to marriage without wife's insurance	−.061 (.052)	−.035 (.065)
Control variables		
African American[a]	−.314*** (.043)	−.254*** (.048)
Hispanic[a]	−.371*** (.049)	−.320*** (.051)
General health	−.048*** (.014)	−.043* (.017)
Father insured at baseline	−.006 (.022)	−.010 (.029)
Age (range = 15-80 years)	.004^{+} (.002)	.002 (.002)
Father employed	−.059^{+} (.030)	−.070^{+} (.042)
Father income (logged)	−.008 (.011)	.001 (.014)
Father on public assistance	.030 (.045)	.003 (0.053)
Mother insured	.008 (.039)	−.015 (.068)
Mother on Medicaid	.041 (.039)	.012 (.063)
Mother with both private insurance and Medicaid	.080 (.212)	.215 (.282)
High school diploma[b]	−.002 (.026)	−.017 (.036)
Some college or associate's degree[b]	−.021 (.036)	−.030 (.034)
College degree or more[b]	−.036 (.056)	−.016 (.059)
Depression	.039 (.025)	.045 (.033)
Smoker	−.032 (.035)	−.021 (.048)
Immigrant	.069 (.045)	.067 (.041)
Father incarcerated	−.026 (.045)	.024 (.071)
Substance abuse	−.019 (.026)	−.013 (.030)
Religious attendance	.060^{+} (.032)	.048 (.040)
Live with biological father	−.019 (.023)	−.018 (.028)
Observations	3,631	1,756

Note: Standard errors in parentheses.
a. White is the reference category.
b. Less than high school diploma is the reference category.
*$p < .05$. ***$p < .001$. $^{+}p < .1$.

the two variables are basically the same in the full sample; however, there are so few fathers who access health insurance through their wives that the standard error of the latter is nearly twice the size of the former. Note also that after the transformation of our treatment variable, the results of the other coefficients are unchanged.

Finally, we answer the question: "Do racial differences in the transition to marriage help explain racial differences in the number of serious health problems of low- to moderate-income unmarried fathers?" Our answer to this question amounts to an examination of whether some of the association between race and serious health problems operates through the correlation between race and marital transitions. Thus, we compare the coefficients on race in a model that controls for transition to marriage (as in Table 3) with one that does not. The results of this second model (not shown) indicate an association for race that was slightly smaller (–0.307 versus –0.314) and not statistically different from the comparable coefficient in Table 3. Thus, we conclude that differences in transition to marriage do not account for differences in the number of serious health problems for African American and White fathers.

Discussion and Limitations

Fathers who are married when their children are born have better general health and are less likely to have serious health problems than unmarried fathers. Marrying had a significant negative effect on the number of serious health problems fathers reported later. We found positive effects of transitioning to marriage on general health, but in neither the full sample of unmarried fathers nor the subsample of those who cohabited were these effects statistically significant.

Although the latter finding is at odds with much previous literature, we believe it reflects the age of our sample of relatively young disadvantaged fathers and short durations of the marriages among those who did transition to marriage. At the birth of his child, the average unmarried father in our sample was 26 years old. Over the next 5 years, few such fathers experienced substantial changes in their health status. Moreover, the direct benefits of marriage on their health will have had little time to accrue for those who transitioned to marriage. As men grow older, these benefits might be observable in health status changes, but our analysis might be looking for such changes too soon.

We were surprised to find no health disparity among our sample and more surprised to find that our African American sample was in better health at baseline and at 5 years and had fewer serious health problems at Wave 5. The men in our other race sample had worse health throughout the study. We

are unsure why. The good health of the African American sample might be because of the young age of the sample members; perhaps as they age, we will see the health disparities typically described in the literature.

Conclusion and Implications for Policy and Future Research

Though racial gaps in income, education, segregation, and other social indicators have decreased since the 1960s, racial disparities in health have shown little improvement, especially for men. Although the age-specific death rate ratio (called the standardized mortality ratio) of African American women to White women improved between 1960 and 2000, especially for women aged 25 to 34 years, the corresponding ratio for men actually increased during the same period. The increase in standardized mortality ratio was greatest for men aged 45 to 64 years. It also increased for younger men because of increases in income inequality, infectious diseases, and gun-related deaths, which have disproportionately affected young African American men since the mid-1980s (Satcher et al., 2005). Another factor that may have contributed to widening health disparities among young men was the growing gap between the proportions of African American and White men who married (Lichter, McLaughlin, Kephart, & Landry, 1992). Moreover, because nonmarital births have become common since 1960, especially among African Americans, lower rates of transitions to marriage among unmarried fathers might have played an important role in the health disparities among young men (Harknett & McLanahan, 2004; Manning, 1993; Manning & Landale 1996).

Although there is a robust literature on the positive effects of marriage on men's health, few studies have examined whether similar benefits accrue to unmarried fathers who subsequently marry. Premarital conceptions are now quite common; nearly two fifths of all children in the United States are born to unmarried parents. Many fathers marry the unmarried mothers of their children, but few studies have determined if this increasingly common path to marriage conveys the same health benefits to men as the more traditional path in which marriage precedes childbirth. This question is especially important for African Americans, because most African American children are born to unmarried parents, but transitions to marriage following a nonmarital birth are rare (Manning, 1993; Stewart, Manning, & Smock, 2003). If such transitions convey the same health benefits to unmarried fathers that they convey to men who marry before childbirth, then African American men, a population group with high rates of mortality and morbidity, might be missing these benefits because they rarely marry after a nonmarital birth.

We used longitudinal data from a birth cohort survey to examine if unmarried fathers who subsequently marry experience better health outcomes than those who do not. Although our data do not support the hypothesized effects of transitions to marriage on general health status, even before controlling for factors that might select unmarried fathers into marriage, we do find a statistically significant and negative association between transitions to marriage and the number of serious health problems in the full sample. Effects of such transitions are not statistically significant for unmarried fathers who had cohabited with the mothers since the children's births. This result is not surprising because these fathers have been receiving the health benefits of living with women, who are generally more aware of, knowledgeable about, and proactive in addressing health problems than men. Most important, the relationship between transitions to marriage and the number of serious health problems was no different for African American unmarried fathers than for White and Other unmarried fathers. Furthermore, transitions to marriage explained little of the difference between the number of serious health problems reported by African American and White/Other unmarried fathers; it should be noted that, contrary to expectations, African American unmarried fathers reported fewer such problems. Finally, almost all low- to moderate-income mothers had health insurance, through their employers or through Medicaid, but more than two fifths of unmarried fathers were uninsured. Few unmarried fathers gained access to health insurance through their wives, but doing so was significantly associated with fewer serious health problems (although the number of serious health problems between men who accessed their wife's insurance and those who did not was almost the same). Interestingly, after controlling for a father's general heath, the father's own health insurance status did not predict fewer serious health problems, although being employed was negatively associated with the number of serious health problems, a father later reported.

Although our results are illuminating, given the dearth of information about race, health, and marriage for men, they are far from conclusive. For one thing, the fathers in our sample are very young (about 26 years old on average), as are their children. In the brief span of 5 years since their children's births, we expect little deterioration in their general health and little opportunity for the health consciousness of their female partners to be manifest in improved general health. Therefore, future studies should follow cohorts of young men and fathers, especially African Americans, to see if the health benefits of marriage become more apparent over time. The same skepticism should be observed with respect to the null association between general health and health insurance status. As health deteriorates with age, those with health insurance will be able to detect and address problems sooner, and

through the "nudging" of their wives, those who are married will be more likely to do the same. Therefore, future research should also pay close attention to health insurance as a moderator of the effect of transitions to marriage when these fathers get older.

Another aspect of this study deserving of further research is the tendency of men in the other racial/ethnic category to report significantly more serious health problems than their White and African American counterparts. We know little about these fathers, other than that they were predominantly immigrants. We hope that subsequent study will explore whether such findings are an anomaly or indicative of larger trends.

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The author(s) declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

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Notes

1. Prior to 1996, welfare recipients automatically qualified for Medicaid, and many women were initially enrolled when they became pregnant. However, the 1996 Personal Responsibility and Work Opportunities Reconciliation Act "delinked" welfare and Medicaid (Department of Health and Human Services, 1998). Now welfare recipients must apply for Medicaid benefits separately.
2. To allay possible concerns that the findings regarding transition to marriage in our OLS models were being driven by the relatively skewed distribution of our dependent variable, we reran models from Tables 3 and 4 where transition to marriage was significant using Poisson and negative binomial models, which are suitable where dependent variables are counts. In general, the results of these robustness checks (available on request) confirmed our main findings, although in the alternative models, the relationship between transition to marriage and the number of serious health problems was often only marginally significant ($p < .06$).

References

Anderson, E. (2000). *Code of the street: Decency, violence, and the moral life of the inner city*. New York: W. W. Norton.

Bierman, A., Fazio, E., & Milkie, M. (2006). A multifaceted approach to the mental health advantage of the married. *Journal of Family Issues, 27*, 554-582.

Blank, R. M., & Schmidt, L. (2001). Work, wages, and welfare. In R. M. Blank & R. Haskins (Eds.), *The new world of welfare* (pp. 70-102). Washington, DC: Brookings Institution Press.

Brown, E. R., Ojeda, V. D., Wyn, R., & Levan, R. (2000). *Racial and ethnic disparities in access to health insurance and health care*. Los Angeles: UCLA Center for Health Policy Research and The Henry J. Kaiser Family Foundation.

Brunson, R. K. (2007). "Police don't like Black people": African-American young men's accumulated police experiences. *Criminology & Public Policy, 6*, 71-102.

Chernew, M., Cutler, D. M., & Keenan, P. S. (2005). Increasing health insurance costs and the decline in insurance coverage. *Health Research & Educational Trust, 40*, 1021-1039.

Cohen, R. A., & Martinez, M. E. (2007). *Health insurance coverage: Early release of estimates from the National Health Interview Survey, 2006*. Atlanta, GA: Centers for Disease Control and Prevention.

Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science & Medicine, 50*, 1385-1401.

Department of Health and Human Services. (1998). *HHS letter to State Medicaid and TANF Administrators*. Washington, DC: Author.

Department of Health and Human Services. (2005). *Medicaid at a glance* (Publication No. CMS-11024-05). Washington, DC: Author.

England, P., & Shafer, E. F. (2007). Everyday gender conflicts in low-income couples. In P. England & K. Edin (Eds.), *Unmarried couples with children* (pp. 55-83). New York: Russell Sage Foundation.

Gelman, A., & Hill, J. (2006). *Data analysis using regression and multilevel/hierarchical models*. New York: Cambridge University Press.

Goesling, B., & Koball, H. (2008). *Marriage and health care coverage among families with children* (ASPE Research Brief). Washington, DC: U.S. Department of Health and Human Services.

Goldman, N. (1993). Marriage selection and mortality patterns: Inferences and fallacies. *Demography, 30*, 189-208.

Hadley, J. (2007). Insurance coverage, medical care use, and short-term health changes following an unintentional injury or the onset of a chronic condition. *Journal of the American Medical Association, 297*, 1073-1084.

Hamilton, B. E., Martin, J. A., & Ventura, S. J. (2006). *Births: Preliminary data for 2005. National Vital Statistics Reports* (Vol. 55). Hyattsville, MD: National Center for Health Statistics.

Harknett, K., & McLanahan, S. S. (2004). Racial and ethnic differences in marriage after the birth of a child. *American Sociological Review, 69*, 790-811.

Hill, M. N., Bone, L. R., Kim, M. T., Miller, D. J., Dennison, C. R., & Levine, D. M. (1999). Barriers to hypertension care and control in young urban black men. *American Journal of Hypertension, 12*, 951-958.

Hofferth, S. L., Pleck, J., Stueve, J. L., Bianchi, S., & Sayer, L. (2002). The demography of what fathers do. In C. S. Tamis-LeMonda & N. Cabrera (Eds.), *Handbook of father involvement* (pp. 63-90). Mahwah, NJ: Lawrence Erlbaum.

Holzer, H. J., & Offner, P. (2006). Trends in the employment outcomes of young black men, 1972-2000. In R. B. Mincy (Ed.), *Black males left behind* (pp. 11-37). Washington, DC: Urban Institute Press.

Isaacs, S., & Schroeder, S. (2004). Class—The ignored determinant of the nation's health. *New England Journal of Medicine, 351*, 1137-1142.

Koball, H., Moiduddin, E., Henderson, J., Goesling, B., & Besculides, M. (2010). What do we know about the link between marriage and health? *Journal of Family Issues*, *31,* 1019-1040.

Lantz, P. M., Lynch, J. W., House, J. S., Lepkowski, J. M., Mero, R. R., Musick, M. A., et al. (2001). Socioeconomic disparities in health change in a longitudinal study of US adults: The role of health-risk behaviors. *Social Science & Medicine, 53*, 29-40.

Levy, H., & Meltzer, D. (2001). *What do we really know about whether health insurance affects health? Economic research initiative of the uninsured working paper*. Ann Arbor: University of Michigan.

Lichter, D. T., LeClere, F. B., & McLaughlin, D. K. (1991). Local marriage markets and the marital behavior of black and white women. *American Journal of Sociology, 96*, 843-867.

Lichter, D. T., McLaughlin, D. K., Kephart, G., & Landry, D. (1992). Race and the retreat from marriage: A shortage of marriageable men? *American Sociological Review, 57*, 781-799.

Lichter, D.T., McLaughlin, D. K., & Ribar, D. C. (2002). Economic restructuring and the retreat from marriage. *Social Science Research, 31*, 230-256.

Little, R. J. A., & Rubin, D. B. (2002). *Statistical analysis with missing data* (2nd ed.). New York: John Wiley.

Maddala, G. S. (1993). *The econometrics of panel data* (Vols. 1 & 2). Brookfield, VT: Elgar.

Manning, W. (1993). Marriage and cohabitation following premarital conception. *Journal of Marriage and the Family, 55*, 839-850.

Manning, W., & Landale, N. S. (1996). Racial and ethnic differences in the role of cohabitation and premarital childbearing. *Journal of Marriage and the Family, 58*, 63-77.

Marcussen, K. (2005). Explaining differences in mental health between married and cohabitating individuals. *Social Psychology, 68*, 239-257.

McLanahan, S., Garfinkel, I., Reichman, N., Teitler, J., Carlson, M., & Audigier, C. N. (2003). *The fragile families and child wellbeing study baseline national report*. Princeton, NJ: Bendheim-Thoman Center for Research on Child Wellbeing.

Mincy, R. B., Hill, J., & Sinkewicz, M. (2009). Marriage: Cause or mere indicator of future earnings growth? *Journal of Policy Analysis and Management, 28*, 417-439.

Mincy, R. B., Lewis, C. E., & Han, J. (2006). Left behind: Less-educated young black men in the economic boom of the 1990s. In R. B. Mincy (Ed.), *Black males left behind* (pp. 1-10). Washington, DC: Urban Institute.

Moynihan, C. (1998). Theories in health care and research: Theories of masculinity. *British Medical Journal, 317*, 1072-1075.

Reichman, N. E., Teitler, J. O., Garfinkel, I., & McLanahan, S. (2001). Fragile families: Sample and design. *Children and Youth Services Review, 23*, 303-326.

Ross, C. E., & Mirowsky, J. (2001). Neighborhood disadvantage, disorder, and health. *Journal of Health and Social Behavior, 42*, 258-276.

Royster, M. O., Richmond, A., Eng, E., & Margolis, L. (2006). Hey brother, how's your health? A focus group analysis of the health and health-related concerns of African American men in a southern city in the United States. *Men and Masculinities, 8*, 389-404.

Royston, P. (2007). Multiple imputations of missing values: Future update of ice, with an emphasis on interval censoring. *Stata Journal, 7*, 445-464.

Satcher, D. J., Fryer, G. E., McCann, J., Troutman, D., Woolf, S. H., & Rust, G. (2005). What if we were equal? A comparison of the Black-White mortality gap in 1960 and 2000. *Health Affairs, 24*, 459-464.

Stewart, S. D., Manning, W. D., & Smock, P. J. (2003). Union formation among men in the U.S.: Does have prior children matter? *Journal of Marriage and Family, 65*, 90-104.

Stutzer, A., & Frey, B. S. (2006). Does marriage make people happy, or do happy people get married? *Journal of Socio-Economics, 35*, 326-347.

Treadwell, H. R., & Ro, M. (2003). Poverty, race, and the invisible men. *American Journal of Public Health, 93*, 705-707.

Waite, L. J., Bachrach, C., Hindin, M., Thomson, E., & Thornton, A. (2000). *The ties that bind: Perspectives on marriage and cohabitation*. New York: Aldine de Gruyter.

Waite, L. J., & Gallagher, M. (2000). *The case for marriage: Why married people are happier, healthier and better off financially*. New York: Doubleday.

Wilcox, W. B., & Wolfinger, N. H. (2008). Living and loving "decent": Religion and relationship quality among urban parents. *Social Science Direct, 37*, 828-843.

Woolfe, S. H., Johnson, R. E., Phillips, R. L., & Philipsen, M. (2007). Giving everyone the health of the educated: An examination of whether social change would save more lives than medical advances. *American Journal of Public Health, 97*, 679-683.

Wu, Z., Penning, M. J., Pollard, M. J., & Hart, R. (2003). "In sickness and in health": Does cohabitation count? *Journal of Family Issues, 24*, 811-838.