

Veteran Status, Race-Ethnicity, and Marriage Among Fragile Families

We used data from the Fragile Families and Child Wellbeing Study (N = 2,679) to examine the impact of men's past military service on the likelihood that a couple will marry within 5 years of a nonmarital birth. Logistic regression analyses showed that men's past military service increased marriage odds by 54% for couples with Black fathers even after controlling for potential mediators. But veteran status had no effect on couples with White or Hispanic fathers. As a result, the large Black-White gap in postbirth marriage evident among couples with civilian fathers did not exist among couples with veteran fathers. Our findings bolster other evidence that military service exerts lasting and unique pro-marriage effects on Blacks.

The "retreat from marriage" has inspired several decades of research regarding the causes and consequences of declines in marriage and related increases in nonmarital childbearing. This literature has focused on marriage within overlapping urban, low-income, and minority populations and has paid particular attention to African Americans, among whom the retreat from marriage has been greatest (Edin, 2000; Edin & Kefalas, 2005; Lichter, McLaughlin, Kephart, & Landry, 1992; Scott, London, &

Gross, 2007). A related but distinct set of recent studies has focused on marriage among "fragile families," defined as unmarried parents who remain coupled to some degree at the time of their child's birth. These studies indicate that a minority of such couples marry after the birth even though most express confidence at the time of their child's birth that they will marry (Carlson, McLanahan, & England, 2004; Gibson-Davis, Edin, & McLanahan, 2005; Osborne, 2005). These studies also documented substantial racial-ethnic differences in the transition to marriage after the birth, with African Americans having the lowest rates of postbirth marriage (Harknett & McLanahan, 2004).

An intriguing counterpoint to research on the retreat from marriage and the growth of fragile families is emerging in a new literature that examines race and family formation in the American military (Lundquist, 2004, 2006; Lundquist & Smith, 2005; Teachman, 2007b). These studies also engage the retreat from marriage literature and consider the Black-White marriage gap. Rather than examining factors that contribute to racial-ethnic differences in marriage, however, they focus on the era of the All-Volunteer Force (AVF) and consider ways in which the highly regulated organization of the military may encourage marriage and childbearing, particularly for African Americans. Drawing on data from the 1980s, these studies found that the prominent Black-White marriage gap in the civilian population is eliminated in the context of active-duty military service (Lundquist, 2004; Teachman, 2007b).

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This paper draws together and extends these three somewhat overlapping literatures. We used data from the Fragile Families and Child WellBeing Study to examine the effects of men's prior military service and race-ethnicity on the odds of marriage among low-income, unmarried couples who have recently had a child together. We began by reviewing these literatures to develop exploratory hypotheses about whether men's veteran status increases the likelihood that an unmarried couple will transition to marriage within 5 years of a nonmarital birth and whether the effect of men's veteran status on the propensity to marry differs among Whites, Blacks, and Hispanics. In that review, we focus primarily on studies of the AVF-era military and consider whether four key sets of parental characteristics affect the propensity to marry among veterans and nonveterans in different racial-ethnic groups: demographic characteristics, human capital, economic resources, and attitudes and behaviors. Throughout the paper, we focus on three mechanisms through which military service could be linked to higher rates of marriage postbirth: selection, changes in men's propensity to marry, and changes in women's perceptions of men's marriageability.

Our analyses link and extend the retreat from marriage, marriage among fragile families, and military service and marriage literatures in several ways. We contribute to the retreat from marriage literature by studying racial-ethnic variation in marriage following a nonmarital birth. We contribute to the literature on fragile families by examining men's veteran status, which, to our knowledge, no prior fragile families study has done. We contribute to the military service and marriage literature by focusing on marriage after a nonmarital birth, studying veterans rather than active-duty service members, including Hispanics as well as African Americans and Whites, and examining an unusually broad array of maternal as well as paternal characteristics through which military service may relate to marriage.

BACKGROUND

A focus on the relationship between race-ethnicity and marriage links all three of the literatures we examine. The retreat from marriage literature documents especially low rates of marriage among African Americans (Lichter

et al., 1992). The fragile families literature has found that African Americans are less likely than Whites and Hispanics to transition to marriage after a nonmarital birth (Aassve, 2003; Carlson et al., 2004; Wilcox & Wolfinger, 2007). And the military marriage literature has explored variation in the impact of race-ethnicity on marriage in military compared to civilian populations (Lundquist, 2004; Teachman, 2007b).

The latter of these literatures advanced the hypothesis that the American military became a relatively "pro-family," "pro-marriage" institution partly to recruit and retain personnel after the AVF replaced the draft in 1973. For example, the provision of subsidized child care and policies that link housing allowances and coveted opportunities to live off base to marriage may promote marriage among active-duty personnel (Lundquist, 2004; Teachman, 2007b). The stability of military employment and higher salaries available to men with only a high school degree in the military relative to civilian employers may also encourage marriage. In addition, Lundquist (2004, 2008) contended that the enforcement of the military's equal opportunity policies sharply reduces racial discrimination in earnings, advancement, and promotion, thereby reducing some of the key economic barriers to marriage for African Americans.

Consistent with these arguments, Lundquist's research showed that the expected Black-White difference in marriage is not present among active-duty military personnel. Teachman (2007b) built on Lundquist's work by comparing different types of AVF-era military service, including current and past active and reserve duty, to construct tests for selectivity. For White men, Teachman (2007b) found that once controls for income and economic stability are included, all four forms of service (current active duty, past active duty, current reserve duty, and past reserve duty) are associated with increased odds of early first marriage. Teachman (2007b) interpreted the similar magnitude of these associations regardless of type of service as evidence that selection explains the link between military service and early first marriage for White men. For Black men, however, Teachman (2007b) found a strong effect of active-duty service on marriage that is not explained by income or economic stability and is larger than the coefficients for other forms of military service. In addition, the effect of active duty service is almost

four times larger for Black than for White men, which Teachman (2007b, p. 399) interpreted as evidence that the AVF-era military functions “as a race-blind bureaucratic environment.” He argued, however, that this is true only during enlistment because he found only weak evidence of increased marriage among Black veterans.

Whether military service affects marriage among Hispanics is uncertain, given that this group does not tend to be examined in extant research, including Lundquist (2004) and Teachman (2007b). Like Blacks, Hispanics are disadvantaged in the labor market and have high rates of nonmarital childbearing. To the extent that military service enhances Hispanic men’s economic opportunities or promotes pro-marriage norms, it might increase marriage among Hispanics. Hispanics, however, also have relatively high rates of marriage and within-marriage fertility and low rates of military service (Kilburn & Klerman, 2000; Landale & Oropesa, 2007; Martin et al., 2007), which might diminish any military impact.

As in the fragile families and retreat from marriage literatures, researchers contributing to the military service and marriage literature controlled for a variety of characteristics to evaluate whether they explain observed associations between race-ethnicity, military service, and marriage. We did the same in our study, taking into account demographic measures, human capital, economic resources, and marriage-relevant attitudes and behaviors. Some of these variables are exogenous to military service, whereas others may be affected by military service and thereby mediate the relationship between military service and marriage.

Demographic Measures

Age, immigration status, and family structure may affect selection into the military (Lutz, 2008) and into marriage. Enlistment and marriage increase with young adulthood and then decline (National Center for Health Statistics, 1990). Immigrants have higher marriage rates and lower enlistment rates than nonimmigrants (Landale & Oropesa, 2007; Lutz), and persons raised by two biological parents are more likely to marry than individuals who grew up in other family structures (Sigle-Rushton & McLanahan, 2004).

Human Capital

The AVF-era military is a selective institution (Kilburn & Klerman, 2000; Teachman, Call, & Segal, 1993). Persons who seek to serve must volunteer and then pass physical and mental health screenings. Thus, those who join the military—particularly persons from disadvantaged and minority populations—may have better initial health than those who do not. Once in the service, members undergo exercise and training regimens, which may contribute to better physical and mental health. In addition, active-duty personnel and their family members receive health care through the military and have access to the Veteran’s Administration health care system following discharge. Whether military service increases overall health—or marriageability because of perceived health and the availability of health benefits—is uncertain, however, as combat exposure can lead to substantial physical and mental health impairments, and combat and noncombat military service may be related to increased substance use (Bray & Hourani, 2007; Dohrenwend et al. 2006; Rosenheck & Fontana, 2007).

Like health, education may relate to selection into the military, as enlistees are usually required to have a high school degree. Military service may also increase educational opportunities, as service members may be eligible to receive additional schooling subsidized by the government during or following service (Teachman, 2007a). Despite the availability of this benefit and in contrast to the World War II era, studies that focus on the AVF era suggest that male veterans received less education than comparable civilians and that this achievement gap grew over time (Teachman, 2007a). The negative effect of military service on education was smaller for Blacks than for Whites or Hispanics, however, which is consistent with the argument that Blacks reap particular benefits from military service.

Economic Resources

Persons who enter the military tend to be disadvantaged in terms of socioeconomic status (Kilburn & Klerman, 2000), making selection in terms of earnings an unlikely mechanism through which military service might be associated with higher marriage rates. As with

educational attainment, the degree to which military service bolsters earnings and improves income trajectories appears to vary across cohort, race-ethnicity, and class (Angrist, 1998; Teachman & Tedrow, 2004). The only study we know of to examine income trajectories among those who served in the AVF era (Teachman & Tedrow, 2007) found that Black men and men from disadvantaged backgrounds earned more than their civilian counterparts during military service; this premium, however, dissipated after discharge, as did the observed active-duty marriage premium (Teachman, 2007b). Thus, it is not clear that military service would increase marriage via men's improved earning potential, particularly as studies of marriage among fragile families and other low-income populations found inconsistent effects of men's earnings (Carlson et al., 2004; Osborne, 2005; Wilcox & Wolfinger, 2007). African American men may be particularly likely to reap any earnings benefits of military service, however, because potential marriage partners may interpret their successful discharge from the military as evidence of their ability to obtain and hold a steady job (Teachman & Tedrow, 2007). Such a signaling process could be particularly important for Black couples because African Americans have substantially lower marriage rates than Whites and Hispanics, and Black men have especially high rates of joblessness and incarceration, which low-income, unmarried mothers often cite as a barrier to marriage (Edin & Kefalas, 2005; Gibson-Davis et al., 2005; Scott et al., 2007).

Attitudes and Behaviors

If the AVF-era military is indeed a pro-marriage, pro-family institution (Lundquist, 2004; Lundquist & Smith, 2005; Teachman, 2007b), does military service exert enduring cultural influences on marriage? Measuring normative effects is notoriously difficult. Still, it seems reasonable to ask whether exposure to a culture in which marriage rates are high relative to those prevailing in civilian life might favorably affect veterans' perceptions of marriage. This could be important, as some research finds that couples are more likely to marry after a nonmarital birth if they hold favorable views of marriage (Carlson et al., 2004). Military service may be particularly likely to influence African American men's

views of marriage because it is associated with especially large increases in the marriage rates of Black men and with decreases in Black service members' odds of divorce (Lundquist, 2004, 2006).

Similarly, if the military encourages family formation, military service may increase marriage by encouraging cohabitation. Many low-income couples view cohabitation as a critical step toward marriage (Edin & Kefalas, 2005), and couples in fragile families who were cohabiting at the time of a nonmarital birth were more likely to marry subsequently than couples who were not cohabiting (Carlson et al., 2004; Osborne, 2005; Waller & McLanahan, 2005; Wilcox & Wolfinger, 2007). It is also possible that men who enter the military may be favorably predisposed toward marriage, cohabitation, or other behaviors, such as regular church attendance, which may promote marriage (Wilcox & Wolfinger).

Relationship quality is another mechanism through which past military service might influence marriage. Couples in fragile families who report higher quality relationships at the time of their child's birth are more likely to marry afterward, although which measures of relationship quality matter vary from study to study (Carlson et al., 2004; Osborne, 2005; Waller & McLanahan, 2005; Wilcox & Wolfinger, 2007). The impact of past military service on relationship quality, however, is unclear. Past military service might enhance relationship quality by promoting trust or easing economic strains. If so, effects might be strongest for African American couples, who are particularly likely to experience low levels of trust and high levels of economic strain (Carlson et al.; Edin, 2000; Edin & Kefalas, 2005). Alternatively, military training and service could undermine relationship quality by triggering mental health problems, causing physical disability, or creating strain because of prolonged separation (Bray & Hourani, 2007; Dohrenwend et al., 2006; Rosenheck & Fontana, 2007).

METHOD

We analyze data from the Fragile Families and Child Wellbeing Study, which followed a cohort of children born to 3,710 unmarried mothers in 75 hospitals in 20 U.S. cities between 1998 and 2000, with a comparison group

of children born to 1,187 married mothers. Mothers and fathers were interviewed shortly after the child's birth and reinterviewed when the child was approximately 1, 3, and 5 years old. Response rates were relatively high, with 87% of eligible unmarried mothers and 75% of eligible unmarried fathers participating at baseline. At the 5-year follow-up, 87% of eligible mothers and 66% of eligible fathers responded.

Our analytic sample consisted of 2,679 unmarried couples with Black, White, or Hispanic fathers in which both parents participated in the initial interview. We analyzed the unmarried portion of the sample because we were interested in the odds of marriage following a birth. We excluded 931 (25%) of the 3,710 original unmarried respondents because the father was not interviewed at baseline, preventing a determination of the fathers' veteran status, and 100 additional cases (less than 3% of the original unmarried sample) because the father belonged to racial-ethnic groups too small for separate analysis.

Measures

Our dichotomous dependent variable measures whether the couple married between the child's birth and the 5-year follow-up survey (Wave 4). We coded couples as having ever been married if the mother reported that she and the child's father were married at any of the three follow-up interviews or if she answered yes to a 5-year follow-up question asking if she and the baby's father had been married at any time since the child's birth. The analytic sample included 345 couples in which the mother was not interviewed at Wave 4. These couples, who represent 13% of the sample, are coded on the basis of information provided in the previous waves. This strategy was not likely to produce substantial underestimates of marriage because more than half of the couples who had married by Wave 4 did so within 1 year of the birth, and 78% did so within 3 years. To confirm that the Wave 4 nonresponse among these couples is unlikely to bias our results, we constructed two alternative models, one including a dichotomous variable identifying cases missing Wave 4 data, the second dropping these cases. In the first alternative model, the dichotomous variable indicating missing Wave 4 data was related inversely to marriage. The coefficients and Wald tests in both alternative

models closely resembled those in our preferred model, however, which suggests the findings were not biased by the lack of Wave 4 data for these 345 couples.

All other measures came from the baseline survey administered at the time of the child's birth. This strategy ensured that the independent variables were measured prior to the dependent variable, reducing the likelihood of reverse causality. We performed multiple imputation using the ICE commands in Stata 9 to account for missing data (Royston, 2005), levels of which were generally quite low (2% or less for most variables other than earnings, which was missing for 10% of fathers and 11% of mothers).

Veteran Status and Racial-Ethnic Groups

Our key independent variable identified couples on the basis of the father's veteran status and race-ethnicity. Veteran status was coded using a question that asked: "Have you ever served in the military?" Although the question could pertain to current military service, responses to a separate question about occupation indicated that only 12 of the 279 unmarried fathers who reported having served were still serving at the time of the child's birth. Including or excluding these 12 fathers from the sample had no substantive effect on our findings, and we coded them as veterans. Given the ages of men in the sample, we can be confident that almost all of them served during the AVF era, which began in 1973. Although women's past military service may also have influenced their propensity to marry, mothers were not asked whether they had ever served at baseline. A question asked at 1-year follow-up indicated that only 36 of the unmarried mothers in our sample were veterans. Fourteen of them were partnered with men who had also served. Father's race-ethnicity was coded using three categories: non-Hispanic White, non-Hispanic Black, and Hispanic. We measured racial-ethnic heterogamy by including a dichotomous variable coded 1 if the mother's race-ethnicity differed from the father's.

We combined father's veteran status and race-ethnicity to create a six-category variable: Black nonveteran, White nonveteran, Hispanic nonveteran, Black veteran, White veteran, and Hispanic veteran. Using a series of binary variables in the models is mathematically equivalent to the inclusion of main and interaction effects for veteran status and race-ethnicity, but

eases interpretation. In multivariate analyses, we treated couples with Black nonveteran fathers as the omitted category because they comprise the largest group and because of the documented low odds of marriage among African American civilians. As discussed further below, we also made comparisons across race-ethnicity within veteran status groups and comparisons across veteran status within racial-ethnic groups. The relatively small number of White fathers in the sample reflects the substantially lower rate of nonmarital childbearing among Whites compared to Blacks and Hispanics (Ventura & Bachrach, 2000; Wu, 2008). This potential lack of power for detecting significant differences between Whites and the other race-ethnicity groups should be borne in mind when considering the results.

Parental Demographic Characteristics

The models include parental demographic characteristics. Age was a continuous variable for fathers and for mothers. Parents' immigrant status and structure of family of origin were measured using parallel sets of mutually exclusive dichotomous measures: both parents (immigrants/raised by two biological parents), father only, mother only, and neither.

Potential Mediators

Human capital. We included two measures of human capital: health and educational attainment. Father's and mother's perceived health was measured by asking each to rate his or her own health on a scale ranging from 1 (*poor*) to 5 (*excellent*). We coded parents into four education groups indicating whether both parents, the father only, the mother only, or neither parent received any college education. Because the Fragile Families survey did not measure total years of education and only 3% of parents in our analytic sample held a 4-year college degree, we focused on the divide between parents with and without any college, regardless of college completion. The rarity of college completion is not specific to the Fragile Families sample but rather reflects the very low rates of nonmarital childbearing among the college-educated nationwide (Ellwood & Jencks, 2004). Unfortunately, we cannot ascertain the timing of fathers' military service or of fathers' or mothers' educational attainment, as these questions

were not asked. Therefore, we cannot determine the extent to which education affected selection into the military and marriage or mediated the relationship between prior military service and marriage.

Economic resources. We included two measures of economic resources, both captured for the year preceding the baseline interview: welfare receipt and earnings. Welfare receipt is a dichotomous measure coded 1 if the mother reported that she received "public assistance, welfare, or food stamps." We collapsed the 11 original earnings categories for fathers into four groups approximating earnings quartiles (<\$5,000, the omitted group; \$5,000–\$14,999; \$15,000–\$24,999; ≥\$25,000). We took a similar approach for mothers but added a separate category for those reporting zero earnings in the year prior to survey because this group represented 31% of mothers, compared to only 5% of fathers. Our five earnings categories for mothers were no earnings, the omitted group, \$1–\$2,900, \$3,000–\$7,999, \$8,000–\$14,999, and ≥\$15,000.

Attitudes and behaviors. Following Carlson et al. (2004), marriage attitudes were measured as the average of each partner's response (ranging from 1 [*strongly disagree*] to 4 [*strongly agree*]) to two statements: "It is better for a couple to get married than to just live together" and "It is better for children if their parents are married." Reliability of the marriage attitude scales were high for both fathers ($\alpha = .71$) and mothers ($\alpha = .71$). Frequency of each parent's attendance at religious services was measured on a scale ranging from 1 (*never*) to 5 (*once a week or more*). Relationship status was measured with a dichotomous variable coded 1 if the couple was living together at the time of the baseline interview when their child was born.

We used four indicators of parent's relationship quality (Carlson et al., 2004). Partner supportiveness was based on the mean of respondents' responses to four questions asking how often their partner "was fair and willing to compromise when you had a disagreement," "expressed affection or love for you," "insulted or criticized you or your ideas" (reverse coded), and "encouraged or helped you to do things that were important to you" ($\alpha = .61$ for fathers and $.62$ for mothers). Couple conflict was based on the mean of respondents' responses to six

questions asking how frequently they and their partner disagreed about money, spending time together, sex, pregnancy, substance use, and faithfulness ($\alpha = .62$ for fathers and $.66$ for mothers). Domestic violence was based on a single-item question asking respondents how frequently their partner "hit or slapped you" when she or he was angry. For each of these three indicators, respondents indicated the frequency of occurrence using a three-category scale (*often, sometimes, never*), with 1 representing the lowest levels of support, conflict, and violence and 3 representing the highest levels. Substance abuse was based on self-reported substance abuse problems in the year preceding the baseline interview. Fathers and mothers were coded as having a substance abuse problem if they responded affirmatively when asked whether drinking or drug use "ever interfered with your work on a job or with your personal relationships" in the past year.

Analytic Approach

We began by examining descriptive statistics that highlight variation in parental characteristics across the six sets of couples identified by fathers' veteran status and race-ethnicity. We then used logistic regression to assess variation by veteran status and race-ethnicity in the odds that couples who were unmarried at the time of their child's birth had married within 5 years of the child's birth. Three models were specified. The initial model included only the dichotomous measures identifying the six sets of couples by father's veteran status and race-ethnicity, with Black nonveterans as the omitted category. The second model added measures of parents' demographic characteristics that are likely to be exogenous to the relationship between past military service and marriage. The final model added the potential mediators: human capital, economic resources, and attitudes and behaviors that influence marriage formation. For all of these models, Wald tests for the equality of the veteran status-race-ethnicity coefficients were calculated in order to compare the effects across veteran status within racial-ethnic groups and across race-ethnicity within veteran status groups. All statistically significant results from these calculations are identified in the tables and text.

RESULTS

Descriptive Statistics

Table 1 presents descriptive statistics for the sample as a whole and for our six groups of couples on the basis of fathers' veteran status and race-ethnicity. For convenience, we refer to "veteran" and "nonveteran" couples. The likelihood that a couple had married within 5 years of the birth of their child was one in four overall. Sharp racial-ethnic differences were evident for nonveteran couples. Among this group, only 16% of those with Black fathers married within 5 years of their child's birth compared to 32% and 34% of couples with White and Hispanic fathers, respectively. In contrast, no racial-ethnic differences in marriage propensity were evident among veteran couples. Importantly, veteran couples with Black fathers were significantly more likely to marry than nonveteran couples with Black fathers (25% compared to 16%). This latter finding is broadly consistent with expectations based on the literature on active-duty military service and marriage (Lundquist, 2004; Teachman, 2007b) in that it suggests that the military was particularly salient for African Americans.

Couples' demographic characteristics generally followed expected patterns. Parents in veteran couples were older than parents in nonveteran couples. Fewer than one in five couples reported that both parents were raised by their two biological parents, reflecting the transmission of family structure across generations (Sigle-Rushton & McLanahan, 2004). Measures of human capital and economic resources highlighted the disadvantaged backgrounds of couples in fragile families as well as relative advantages among couples with veteran fathers in some cases. In two thirds of couples, neither parent had any college education. Partners in couples with Black and White fathers were less likely to have some college education if the fathers were not veterans. In 44% of couples, mothers had received welfare in the previous year. Parents' earnings were quite low overall, but no or very low earnings were more common among nonveteran couples.

Veteran status distinctions, however, were virtually nonexistent with respect to attitudes and behaviors likely to be related to marriage. The average pro-marriage scores in the total sample were 2.92 for fathers and 2.76 for mothers on a 1 to 4 scale, with higher scores

Table 1. Characteristics of Unmarried Couples in the Fragile Families Sample

	All Couples (N = 2, 679)		Couples With Nonveteran Fathers (N = 1, 388)		Couples With Veteran Fathers (N = 156)		Couples With Veteran Fathers (N = 80)	
Couple ever married since child's birth	0.24		0.16 ^{abc}	0.32	0.34	0.25	0.37	0.32
Mother of different race	0.13		0.10 ^{abc}	0.16	0.17	0.17	0.17	0.25
Parents' demographic characteristics								
Age								
Father's age	26.53 (7.07)		25.98 ^a (6.97)	26.17 ^a (6.28)	25.54 ^a (6.09)	33.58 ^c (8.43)	30.97 (7.52)	29.60 (6.80)
Mother's age	23.80 (5.53)		23.45 ^a (5.31)	23.40 ^a (5.23)	23.51 ^a (5.48)	26.99 (6.05)	26.51 (6.55)	26.03 (6.21)
Immigrant status								
Both parents immigrants	0.10		0.02 ^c	0.01 ^d	0.29	0.01 ^c	0.005 ^d	0.28
Father only immigrant	0.04		0.02 ^{ac}	0.02 ^d	0.09	0.001 ^c	0.02 ^d	0.15
Mother only immigrant	0.02		0.02 ^c	0.04	0.04	0.02	0.03	0.01
Neither parent immigrant	0.83		0.94 ^c	0.93 ^d	0.58	0.97 ^c	0.94 ^d	0.56
Family structure								
Both parents raised by two parents	0.17		0.08 ^{bc}	0.23 ^d	0.30	0.12 ^{bc}	0.28	0.28
Dad only raised by two parents	0.19		0.19	0.24	0.18	0.18	0.21	0.18
Mom only raised by two parents	0.22		0.20 ^c	0.25 ^a	0.25	0.23 ^b	0.09 ^d	0.31
Neither parent raised by two parents	0.42		0.53 ^{bc}	0.29	0.26	0.47 ^c	0.41 ^d	0.22
Human capital								
Health								
Father's self-reported health	3.95 (0.95)		4.03 ^c (0.93)	3.95 ^d (0.85)	3.81 (0.99)	3.92 (1.04)	3.94 (0.82)	3.99 (0.98)
Mother's self-reported health	3.84 (0.97)		3.89 ^c (0.98)	3.92 ^d (0.90)	3.69 (1.00)	3.92 (0.92)	4.04 (0.76)	3.79 (1.00)
Education								
Both parents had some college	0.09		0.08 ^{ab}	0.13 ^d	0.07	0.14	0.21	0.10
Father only had some college	0.11		0.10 ^a	0.10 ^a	0.09	0.31 ^c	0.30 ^d	0.12

Table 1. Continued

	All Couples (N = 2, 679)	Couples With Nonveteran Fathers			Couples With Veteran Fathers		
		Black (N = 1, 388)	White (N = 284)	Hispanic (N = 721)	Black (N = 156)	White (N = 43)	Hispanic (N = 80)
Mother only had some college	0.14	0.14 ^c	0.17 ^d	0.10	0.19 ^c	0.21	0.10
Neither parent had some college	0.66	0.68 ^{abc}	0.60 ^{ad}	0.74	0.36 ^c	0.28 ^d	0.67
Economic resources							
Welfare receipt	0.44	0.48 ^{bc}	0.40 ^a	0.37	0.48 ^b	0.25	0.40
Mother received welfare							
Father's earnings							
Father earned less than \$5,000	0.23	0.31 ^{abc}	0.10 ^d	0.17	0.07	0.07	0.12
Father earned \$5,000 to \$14,999	0.33	0.31 ^{ac}	0.26 ^{ad}	0.42 ^a	0.21	0.14	0.27
Father earned \$15,000 to \$24,999	0.24	0.20 ^{abc}	0.29	0.26 ^a	0.31	0.30	0.36
Father earned \$25,000 or more	0.21	0.17 ^{ab}	0.35 ^{ad}	0.16	0.40 ^c	0.49 ^d	0.25
Mother's earnings							
Mother had no earnings	0.36	0.36 ^{abc}	0.23 ^d	0.45 ^a	0.25	0.15	0.28
Mother earned less than \$3,000	0.20	0.21 ^c	0.24 ^{ad}	0.17	0.18	0.10	0.24
Mother earned \$3,000 to \$7,999	0.16	0.17	0.20 ^d	0.14	0.16	0.19	0.13
Mother earned \$8,000 to \$14,999	0.13	0.12	0.15	0.13	0.18	0.29	0.15
Mother earned \$15,000 or more	0.15	0.14 ^a	0.18 ^d	0.11	0.23	0.27	0.19
Attitudes and behaviors							
Marriage attitudes							
Father's pro-marriage attitudes	2.92 (0.68)	2.88 ^c (0.68)	2.90 ^d (0.62)	3.00 (0.70)	2.89 (0.72)	2.72 ^d (0.64)	3.03 (0.66)
Mother's pro-marriage attitudes	2.76 (0.70)	2.79 ^b (0.71)	2.58 ^d (0.64)	2.78 (0.67)	2.78 ^b (0.69)	2.42 ^d (0.68)	2.81 (0.80)

Table 1. *Continued*

	All Couples (<i>N</i> = 2, 679)	Couples With Nonveteran Fathers		Couples With Veteran Fathers			
		Black (<i>N</i> = 1, 388)	White (<i>N</i> = 284)	Hispanic (<i>N</i> = 721)	Black (<i>N</i> = 156)	White (<i>N</i> = 43)	Hispanic (<i>N</i> = 80)
Religious attendance							
Father's religious attendance	2.66 (1.29)	2.67 ^b (1.28)	2.26 ^d (1.18)	2.75 (1.31)	2.86 ^b (1.33)	2.26 ^d (1.18)	3.00 (1.33)
Mother's religious attendance	2.87 (1.34)	2.89 ^b (1.34)	2.40 ^d (1.16)	2.94 (1.36)	3.11 ^b (1.37)	2.50 ^d (1.17)	3.10 (1.33)
Relationship status: Cohabiting	0.58	0.46 ^{bc}	0.77	0.72	0.51 ^{bc}	0.76	0.69
Relationship quality							
Father's rating of partner's supportiveness	2.63 (0.39)	2.61 ^{bc} (0.38)	2.68 (0.35)	2.66 (0.36)	2.55 (0.47)	2.60 (0.38)	2.66 (0.47)
Mother's rating of partner's supportiveness	2.63 (0.37)	2.60 ^{bc} (0.38)	2.72 (0.35)	2.68 (0.35)	2.59 ^b (0.40)	2.71 (0.31)	2.62 (0.40)
Father's rating of couple conflict	1.45 (0.38)	1.50 ^{bc} (0.40)	1.41 (0.34)	1.39 (0.36)	1.50 ^{bc} (0.40)	1.34 (0.30)	1.38 (0.36)
Mother's rating of couple conflict	1.46 (0.40)	1.50 ^{bc} (0.41)	1.43 (0.36)	1.40 (0.38)	1.50 ^b (0.40)	1.35 (0.27)	1.46 (0.43)
Father's report of own substance abuse problems	0.07	0.06 ^b	0.12 ^d	0.06	0.07	0.07	0.10
Mother's report of own substance abuse problems	0.03	0.03	0.06 ^d	0.02	0.02	0.02	0.04
Father's report of mothers' hitting/slapping	1.17 (0.44)	1.20 ^{bc} (0.48)	1.15 (0.40)	1.14 (0.38)	1.18 (0.44)	1.12 (0.32)	1.15 (0.43)
Mother's report of father's hitting/slapping	1.05 (0.24)	1.06 ^b (0.27)	1.01 ^d (0.10)	1.05 (0.24)	1.06 (0.24)	1.02 (0.15)	1.04 (0.20)

Note. Significant differences ($p < .05$) are identified as follows: between ^aveterans and nonveterans of the same race or between races within veteran or nonveteran groups; ^bBlacks and Whites, ^cBlacks and Hispanics, ^dWhites and Hispanics.

indicating more favorable views of marriage. Veteran status was unrelated to religious attendance, cohabitation, or relationship quality. Couples generally reported high levels of partner supportiveness and low levels of couple conflict on scales ranging from 1 (*low*) to 3 (*high*). For supportiveness, the mean was 2.63 for parents of both genders, whereas for conflict the mean was 1.45 for fathers and 1.46 for mothers. No veteran status distinctions were evident with regard to supportiveness, conflict, domestic violence, or substance abuse.

Marriage Propensity Models

We began with our first two related questions: whether men's veteran status increased the likelihood that an unmarried couple would transition to marriage within 5 years of a nonmarital birth and whether the effect of men's veteran status on the propensity to marry differed among Whites, Blacks, and Hispanics. A preliminary bivariate analysis (not shown) indicated that veteran status and race-ethnicity had significant main effects on the transition to marriage. Having a veteran father increased couples' odds of marriage by a third ($OR = 1.34$), and couples with a White or Hispanic father were two and a half times more likely to marry than couples with a Black father ($OR = 2.43$ and 2.49 , respectively).

Table 2 presents three models that included the combined veteran status and race-ethnicity variables. Model 1 indicated that the odds of marriage were higher among each of the other five groups than they were among nonveteran Blacks, the omitted category. These differences persisted when exogenous demographic characteristics were controlled in Model 2 and when potential mediators were added in Model 3. We conducted additional analyses to test for veteran status differences in the odds of marriage within race-ethnicity categories. As shown in Model 1, relative to couples with Black nonveteran fathers, couples with Black veteran fathers were 72% more likely to marry ($OR = 1.72$). The results of Wald tests for the equality of coefficients among White couples and Hispanic couples, however, indicated that among these groups, couples with veteran fathers had the same odds of marriage as couples with nonveteran fathers of the same race-ethnicity. Among Whites, the difference in

coefficients between veterans and nonveterans was 0.22 ($p = .51$). Among Hispanics, the difference was -0.07 ($p = .78$).

These findings were robust. Controlling for exogenous and potential mediating variables in Models 2 and 3 did not change our conclusion that fathers' veteran status only influenced the transition to marriage among Black couples. Relative to couples with Black nonveteran fathers, couples with Black veteran fathers were 77% more likely to marry after controlling for the exogenous variables in Model 2. Controlling for potential mediating variables in addition to exogenous factors reduced but did not eliminate the increased odds of marriage. Black veteran fathers were 54% more likely to marry than Black nonveteran fathers in Model 3. In contrast, differences between coefficients for White veteran and White nonveteran fathers and for Hispanic veteran and Hispanic nonveteran fathers, remained nonsignificant after controlling for exogenous and potential mediating variables. For White fathers, the difference was 0.24 in Model 2 and 0.20 in Model 3 ($p = .50$ and $.55$, respectively). For Hispanic fathers, the difference was -0.07 in Model 2 and -0.09 in Model 3 ($p = .79$ and $.76$, respectively).

We also conducted additional analyses to test for racial-ethnic differences in the odds of marriage within veteran status categories. Wald tests based on Model 1 identified large racial-ethnic differences in marriage odds among nonveterans, as expected. Couples with White or Hispanic nonveteran fathers were respectively 3 ($OR = 3.11$) and 2.5 times ($OR = 2.49$) more likely to marry than couples with Black nonveteran fathers. In contrast, race-ethnicity was not a distinguishing factor in marriage odds among veteran couples. Couples with Black veteran fathers were equally likely to marry within 5 years as couples with non-Hispanic White or Hispanic veteran fathers. Thus, veteran status appeared to eliminate Black-White and Black-Hispanic differences in marriage among couples in fragile families. Although the inclusion of exogenous and potentially mediating variables in Models 2 and 3 reduced the size of the estimated coefficients for the veteran status-race-ethnicity groups, the addition of these variables did not alter our conclusion that the racial-ethnic differences in marriage evident among nonveteran couples were eliminated among veteran couples.

Table 2. Logistic Regression Models of Whether Couple Married Within 5 Years of Their Child's Birth

	Model 1			Model 2			Model 3		
	B	SE	e ^B	B	SE	e ^B	B	SE	e ^B
Race and veteran status (Black nonveteran father omitted)									
Black veteran father	0.54**	0.20	1.72	0.57**	0.21	1.77	0.43*	0.22	1.54
White veteran father	1.14**	0.32	3.11	1.11**	0.34	3.03	0.94**	0.33	2.55
Hispanic veteran father	0.91**	0.25	2.49	0.72**	0.26	2.06	0.65**	0.28	1.92
White nonveteran father	0.91**	0.15	2.49	0.87**	0.15	2.39	0.73**	0.17	2.08
Hispanic nonveteran father	0.98**	0.11	2.67	0.79**	0.12	2.21	0.74**	0.13	2.09
Mother of different race	-0.001	0.13	1.00	0.002	0.14	1.00	-0.02	0.14	0.98
Parents' demographic characteristics									
Age									
Father's age				-0.01	0.01	0.99	-0.02	0.01	0.98
Mother's age				0.03*	0.01	1.03	0.02	0.01	1.02
Immigrant status (neither omitted)									
Both parents immigrants				0.38*	0.16	1.46	0.15	0.18	1.16
Father only immigrant				0.40	0.21	1.49	0.39	0.23	1.47
Mother only immigrant				1.15**	0.25	3.15	0.97**	0.27	2.63
Family structure (neither omitted)									
Both parents raised by two parents				0.12	0.15	1.13	-0.02	0.15	0.98
Father only raised by two parents				0.22	0.13	1.24	0.21	0.13	1.23
Mother only raised by two parents				0.10	0.13	1.11	0.01	0.14	1.01
Human capital									
Health									
Father's self-reported health							-0.02	0.05	0.98
Mother's self-reported health							0.03	0.05	1.03

Table 2. Continued

	Model 1			Model 2			Model 3		
	B	SE B	e ^B	B	SE B	e ^B	B	SE B	e ^B
Education (neither omitted)									
Both parents had some college							0.52**	0.17	1.69
Father only had some college							0.33*	0.15	1.39
Mother only had some college							0.24	0.15	1.27
Economic resources									
Welfare receipt									
Mother received welfare							0.10	0.11	1.10
Father's earnings (less than \$5,000 omitted)									
Father earned \$5,000 to \$14,999							0.24	0.16	1.27
Father earned \$15,000 to \$24,999							0.28	0.16	1.33
Father earned \$25,000 or more							0.42*	0.17	1.52
Mother's earnings (none omitted)									
Mother earned \$1 to \$2,900							-0.14	0.15	0.87
Mother earned \$3,000 to \$7,999							0.003	0.15	1.00
Mother earned \$8,000 to \$14,999							-0.15	0.17	0.86
Mother earned \$15,000 or more							0.23	0.17	1.26
Attitudes and behaviors									
Marriage attitudes									
Father's pro-marriage attitudes							0.16*	0.08	1.17
Mothers' pro-marriage attitudes							0.25**	0.07	1.29
Religious attendance									
Father's religious attendance							0.07	0.04	1.07
Mother's religious attendance							0.07	0.04	1.07

Table 2. Continued

	Model 1			Model 2			Model 3		
	<i>B</i>	SE <i>B</i>	<i>e^B</i>	<i>B</i>	SE <i>B</i>	<i>e^B</i>	<i>B</i>	SE <i>B</i>	<i>e^B</i>
Relationship status									
Cohabiting at baseline							0.69**	0.11	2.00
Relationship quality									
Father's rating of mother's supportiveness							0.32*	0.15	1.38
Mother's rating of father's supportiveness							0.39*	0.17	1.48
Father's rating of couple conflict							0.18	0.15	1.19
Mother's rating of couple conflict							-0.25	0.15	0.78
Father's report of own substance abuse problems							-0.44	0.23	0.65
Mother's report of own substance abuse problems							-0.29	0.31	0.75
Father's report of mothers' hitting/slapping							-0.15	0.14	0.86
Mother's report of father's hitting/slapping							0.17	0.24	1.19
Constant	-1.65**	0.07		-1.99**	0.21		-5.69**	0.90	
<i>N</i>	2,679			2,679			2,679		

Note: ** $p < .01$ and * $p < .05$ identify robust significant differences with the omitted group (nonveteran couples with Black fathers). Additional significant differences ($p < .05$) are identified as follows: between ^aveterans and nonveterans of the same race or between races within veteran or nonveteran groups: ^bBlacks and Whites, ^cBlacks and Hispanics, ^dWhites and Hispanics.

These control variables did, however, influence the odds of marriage within 5 years of a nonmarital birth in expected directions. In terms of the effects of the exogenous parental characteristics introduced in Model 2, couples in which at least one partner was an immigrant or the mother was older were more likely to marry. The effects of maternal age and having two immigrant parents were reduced to nonsignificance when potential mediators were included in Model 3. But couples in which the mother only was an immigrant remained more likely to marry than couples in which both parents were native born ($OR = 2.63$).

Model 3 tested whether human capital, economic resources, and attitudes and behaviors mediated the relationship between veteran status-race-ethnicity and the odds of marrying within 5 years of having a child, controlling for parental demographic characteristics. With regard to human capital, parents' overall health had no effect on marriage, but couples were more likely to marry if the father or both the father and the mother had some college education. In terms of economic resources, only fathers' income mattered. Couples in which the father earned \$25,000 or more were 52% more likely to marry than couples in which the father earned less than \$5,000. But mothers' earnings and welfare receipt were unrelated to the couples' marriage odds.

In terms of attitudes and behaviors, fathers' and mothers' pro-marriage attitudes were both positively associated with marriage, but frequency of religious attendance had no effect. Couples who cohabited at baseline were twice as likely to marry as those who did not cohabit. Only one aspect of relationship quality mattered. Both fathers' and mothers' ratings of their partners' supportiveness were positively associated with marriage. Evaluations of couple conflict, partner substance abuse, and hitting and slapping were unrelated to marriage odds.

DISCUSSION

Our paper extends the retreat from marriage, fragile families, and military service and marriage literatures by examining the impact of men's past military service on the likelihood that a couple will marry within 5 years of a nonmarital birth. Our contributions include a focus on the impact of past rather than current military service and the inclusion of

an unusually wide range of control and potential mediating variables, including characteristics of the men's female partners. Our sample also includes Hispanics, who have not been studied in previous research on military service and marriage, as well as Whites and Blacks.

Controlling for a broad array of background and potentially mediating variables, we found that couples with Black veteran fathers were 54% more likely to marry within 5 years of the birth than couples with Black nonveteran fathers. Military service did not increase marriage odds for Whites and Hispanics relative to veterans of the same race-ethnicity, and no racial-ethnic differences in postbirth marriage were evident among couples in which the father had served in the military. In contrast, racial-ethnic differences in postbirth marriage were pronounced among couples in which the father had not served. Couples with White or Hispanic nonveteran fathers were twice as likely to marry as couples with Black nonveteran fathers.

Overall, our key findings are broadly consistent with the available literature. Our finding of pronounced racial-ethnic differences among nonveteran couples even after controlling for a wide array of potential mediators is consistent with fragile families research, which controlled for a similarly broad range of factors and still found that Blacks are less likely than Whites or Hispanics to marry following a nonmarital birth (Carlson et al., 2004; Harknett & McLanahan, 2004; Wilcox & Wolfinger, 2007). Our finding that past military service increases marriage odds only for Blacks is consistent with the military service and marriage literature, which found that Black-White marriage differences narrow or disappear in the context of active-duty military service (Lundquist, 2004; Teachman, 2007b). Unlike Teachman (2007b), whose results suggested that veteran status had small and only marginally significant effects on marriage, we found that the impact of military service endures among African American men in fragile families. This likely reflects the nature of our sample, which consists exclusively of couples who had a child together outside marriage and remained coupled to some extent at the time of the birth. For such couples, the question of marriage is likely to have particular salience; most mothers in fragile families say that it is better for children to be raised by married than by unmarried parents, and most mothers and fathers in fragile families

report that they expect to marry the parent of their child (Gibson-Davis et al., 2005; Harknett & McLanahan; Waller & McLanahan, 2005).

Given limited controls for early life circumstances, we cannot rule out the possibility that selection explains the relationship between military service and marriage among Blacks. We have, however, taken into account a wide array of social and economic characteristics that are likely to be correlated with factors that influence selection into military service, and we have measured these characteristics at the baseline interview. Descriptive statistics show a striking absence of baseline differences in the attitudes and behaviors of parents in veteran and nonveteran couples. Furthermore, we have no reason to believe that selection would play a greater role for Blacks than for Whites or Hispanics.

A second possible explanation for the African American veteran effect is that Black men gain greater lasting benefits from military service than men in other racial-ethnic groups. This could be because the discrimination that African Americans face in civilian life is substantially reduced in the military, as suggested by Lundquist (2004) and Teachman (2007b), affording opportunities for employment, earnings, occupational advancement, and/or social status to Black veterans that distinguish them from nonveteran African American men. For example, having been honorably discharged from military service might make it easier for Black men to find and keep stable employment. Black men have especially high unemployment rates, which could increase the value of military training and experience. Although Hispanics have relatively high rates of nonmarital childbearing and face economic and educational disadvantage, unemployment rates are lower among Hispanic than among Black men, and Hispanics have higher overall marriage rates and higher marriage rates following a nonmarital birth than Blacks (Harknett & McLanahan, 2004; Landale & Oropesa, 2007; Martin et al., 2007).

The notion that benefits of past military service accrue to a greater extent to African American men is supported by recent research. In the AVF era, when men in the Fragile Families sample almost certainly served given their ages, Blacks appear to benefit more—or to be disadvantaged less—by military service than other racial-ethnic groups (Angrist, 1998; Teachman & Tedrow, 2007), and Blacks are more likely to perceive military service as

beneficial to them than are Hispanics or Whites (Lundquist, 2008). Our own bivariate statistics suggest that the impact of veteran status on earnings is particularly pronounced among African American men, increasing the odds of earning \$25,000 or more annually by 35% and reducing the odds of earning less than \$5,000 by 77% (calculations based on Table 1). Although increased earnings do not explain the increased likelihood of marriage among African American veterans in multivariate models, they do have a direct effect; for all men, earning \$25,000 or more is associated with a 52% increase in marriage odds compared to earning less than \$5,000. A related possibility is that veteran status matters more for Blacks because Black men have the most to gain from exposure to the pro-marriage normative context of the AVF-era military. Black couples have the lowest rates of exit from the single state after a nonmarital birth (Aassve, 2003; Carlson et al., 2004; Harknett & McLanahan, 2004). Service in the military may directly or indirectly promote new and reinforce existing normative orientations toward marriage and family life or provide models and positive peer reinforcement for succeeding in marriage.

Finally, a growing body of research suggests that African Americans do not differ from other racial-ethnic groups in their desire to marry but are less likely than others to meet the goals of economic self-sufficiency and demonstrated relationship skills that men and women of all racial-ethnic groups living in low-income and fragile families view as essential characteristics of a prospective marriage partner (Edin & Kefalas, 2005; Gibson-Davis et al., 2005; Lichter, Batson, & Brown, 2004; Scott et al., 2007; Waller & McLanahan, 2005). This raises the possibility that military service enhances Black men's perceived marriageability in the eyes of female partners, for whom successful completion of a tour of military duty may signal the ability to meet the economic and relationship challenges of marriage.

Our findings are subject to several limitations. The number of Whites in our sample is small, reflecting low rates of nonmarital childbearing among this group. This creates the potential for large standard errors, which might affect tests of statistical significance. Thus, it is important to bear in mind the possibility that veteran status might have a significant effect on marriage in a larger sample of White couples. In addition, the Fragile Families data do not allow us to ascertain

when military service took place or to determine certain dimensions of military service that might affect the propensity to marry following a nonmarital birth. Data on such factors as age at enlistment, duration of service, combat exposure, rank, training experiences, reserve participation, and benefits take-up after exiting active duty are important to collect in future studies. Our study focused on a select group of couples living in urban areas who had a recent nonmarital birth. Our conclusion that military service increases marriage among African American couples who have had a nonmarital birth would be strengthened if our finding of a positive relationship between veteran status-race-ethnicity and marriage only among Blacks was replicated using other low- and mixed-income samples of unmarried couples, including those living in rural and suburban areas and those who have not had a recent nonmarital birth.

Despite these limitations, the consistency of our findings with extant theory and research and the ways that it connects to and extends various literatures suggest that more research on this topic is warranted. More direct, comparative research that aims to understand why military service matters for African Americans in ways that it does not for Whites and Hispanics is critical. Such research could be qualitative, quantitative, or use mixed methods, and, like our study, should include both men's and women's perspectives. Research that explicitly aims to untangle the extent to which selection, the material benefits of military service, or the perceived marriageability of Black men explain the relationship between military service and marriage would be useful, as would research that focuses explicitly on the experiences of Black women who have and have not served in the military. Like other studies to date, our research focused on the implications of men's military service for marriage behavior. Partly this is because of the limitations of the data we had available. To a large extent, the effect of women's, and particularly Black women's, military service on marriage propensities is uncertain. To the extent that the military functions as a race-blind, pro-marriage institution (Lundquist, 2004, 2008; Lundquist & Smith, 2005; Teachman, 2007b), it may increase marriage among some or all women. Alternatively, military service might enhance women's ability to support themselves, which might deter them further from marrying. The effects of selection into the military and

perceived marriageability are likely to vary considerably when the focus is on servicewomen rather than servicemen. These questions await future research.

Prior studies have shown that active-duty military service affected early first marriages among Blacks (Lundquist, 2004; Teachman, 2007b). This study suggests that the potential pro-marriage effect of military service endures and affects later, potentially higher order marriages that take place after active-duty service has ended. The fact that the effect of military service was limited to couples with Black fathers and was not explained by the many human capital, economic resources, or marriage-related attitudes and behaviors variables we included in our models leaves open a range of questions about the direct and indirect effects of military service on marriage that demand further investigation. If upon further investigation it turns out that an institutional context that reduces racial discrimination, advances economic opportunities, and provides normative support for marriage is what is needed to increase marriage among African Americans (and potentially others), then this has important implications for policy makers who are concerned about the future of marriage in America.

NOTE

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