

SEX DIFFERENCES IN THE ENTRY INTO MARRIAGE

Frances Koblin Goldscheider, Linda J. Waite

July 1986

RAND

This project was supported by Grant No. N01-HD-12814, awarded by the National Institute of Child Health and Human Development, National Institutes of Health, U.S. Department of Health and Human Services.

This Note contains an offprint of RAND research originally published in a journal or book. The text is reproduced here, with permission of the original publisher.

The RAND Publication Series: The Report is the principal publication documenting and transmitting RAND's major research findings and final research results. The RAND Note reports other outputs of sponsored research for general distribution. Publications of The RAND Corporation do not necessarily reflect the opinions or policies of the sponsors of RAND research.

A RAND NOTE

N-2544-NICHD

SEX DIFFERENCES IN THE ENTRY INTO MARRIAGE

Frances Koblin Goldscheider, Linda J. Waite

July 1986

Prepared for

The National Institute of Child Health
and Human Development

RAND

Sex Differences in the Entry into Marriage¹

Frances Kobrin Goldscheider
Brown University

Linda J. Waite
Population Research Center, Rand Corporation

Among the many transitions young people make as they enter adulthood, marriage is perhaps the most important. This paper uses data from the National Longitudinal Surveys of Young Women and Young Men to examine the transition to marriage and how it differs by sex, testing the extent of variation in the desirability of marriage for men and women, and the effects of marriage market factors and marital and nonmarital roles. The design of the analysis allows the effects of these factors to vary over the young adult years. The pattern of findings suggests that recent declines in the marriage rate have not resulted from increased barriers to marriage but from declines in relative preferences for marriage.

Among the many decisions young people make as they enter adulthood, marriage is perhaps the most important. It is the clearest transition from childhood to adulthood, and it conditions to a great extent the patterning of adult roles (Marini 1978; Voss 1975; Hogan 1978). For young persons graduating from high school in the early 1970s, marriage resulted in a break from the residential and financial dependence of childhood far more often than did finishing school, pursuing higher education, entering unmarried parenthood, or even beginning full-time employment (DaVanzo and Kobrin 1982; Goldscheider and DaVanzo 1985).

It may be, however, that marriage is now less central in the process of transition to adulthood and in the constellation of roles defining adulthood than in the past. Major changes have occurred in marriage, divorce,

¹ The research reported here was supported by contract no. N01-HD-12814 from the Center for Population Research, National Institute of Child Health and Human Development. We would like to thank Julie DaVanzo, Calvin Goldscheider, Arland Thornton, Christina Witsberger, and several *AJS* reviewers for helpful comments and assistance on various phases of this project.

and remarriage rates. As a result, the unmarried—whether never married, divorced, separated, or widowed—are no longer a small minority of the adult population, nor are the unmarried years a small portion of the adult life course (Glick 1984). For both sexes, the percentage of the never-married has increased at all ages through the mid-thirties. Among women aged 20–24 in 1983, 55.5% had never married, compared with 35.8% in 1970, while for men this percentage has risen from 54.7% to 73.2%. Furthermore, the number of currently divorced adults per 1,000 currently married persons has increased from 35 in 1960 to 114 in 1983 (U.S. Bureau of the Census 1983).

Are young Americans simply less able to marry because there are more obstacles to marriage, or are they choosing not to marry because marriage has become a relatively less attractive option than nonmarriage? Two major arguments focus on the importance of increasing barriers to marriage. First, many argue that the high levels of nonmarriage characterizing the 1970s have resulted from economic hardship among young men (Easterlin 1978). This was frequently the case in the past (cf. Hajnal 1965; Dixon 1971, 1978). Others argue that an imbalance in the sex composition of the marriage market, resulting from the baby boom of the 1940s and 1950s, has characterized the 1960s and 1970s, limiting the marriage options of young women (e.g., Heer and Grossbard-Shechtman 1981). These two arguments disagree on which sex should be the focus for analysis, but they share the view that, for both, marriage remains the most desirable state; short-term changes occur when it becomes more or less difficult to attain.

Has marriage become less desirable, perhaps signaling a more permanent reduction in the centrality of marriage for adult men and women? The arguments here are less clear. Research on sex role differences shows that traditionally defined family roles are very different for men and women. Women gain financially from marriage, but they give up more than men in terms of privacy, friends, and control over schedules and lifestyles (Bernard 1972). In contrast, men gain disproportionately from the noneconomic benefits associated with marriage—in particular, household services, but also survivorship and mental and physical health (Gove 1972, 1973; Gove and Hughes 1979). If one does not consider financial gains and losses, then “his” marriage is more desirable than “her” marriage on many dimensions (Bernard 1972).

These findings focus our attention on factors within and outside marriage that may alter the preferences for marriage of men, women, or both. In particular, women have gained other options than marriage for financial support and the support of their children in the form of paid employment and welfare systems. These options have allowed them the privacy and independence of adulthood, thus lowering their need to marry

(Ellwood and Bane 1984; Waite 1981). The sexual revolution and the increase in "living together" also mean that men have greater access to wifelike social and sexual services outside of marriage than they previously had, reducing their incentive to make longer-term commitments of financing and support (Ehrenreich 1983).

In addition, declines in average family size, the large increases in the proportion of young women who prefer to remain childless (Bloom 1982), and the rise in the proportion of all first marriages expected to end in divorce (Glick and Norton 1977) have probably altered how men and women regard being married. For both sexes, the role of marriage in leaving the parental home has been reduced, as young people increasingly leave home before marriage (Goldscheider and LeBourdais 1986; Young 1984). As a result, marriage may seem less desirable, and nonmarriage more reasonable. In fact, attitudinal evidence shows that most young people and their parents no longer view getting married as preferable to remaining single and do not disapprove of those who choose not to wed. The increased tolerance of singleness marks a substantial change from attitudes measured in the 1950s (Thornton and Freedman 1982).

Taken together, the available evidence does not demonstrate sharply how variation between men and women in factors influencing the probability of marriage is related to short- or long-term changes in marital and nonmarital roles, marriage markets, or the desirability of marriage. We address these issues systematically using data from the National Longitudinal Surveys of the Education and Labor Market Experiences of Young Men and Women (NLS). These data allow us to examine in detail factors that have influenced the probability of marriage for young men and young women in the late 1960s and 1970s.

ANALYTIC FRAMEWORK AND HYPOTHESES

Our analysis of sex differences in the desirability of marriage focuses on how resources affect the probability of marriage. We reason that if those with access to more resources are more likely to marry than those with less, with other factors held constant, this suggests that they prefer marriage to the unmarried options available. This prediction follows from exchange theory (Nye 1978) and the central tenets of consumer choice theory. Put simply, the indicator of the desirability of a given option is whether consumers elect to consume more or less of it as their income rises.²

² Interestingly, the major economic analysis of the transition to marriage does not deal with this issue. Becker (1973, 1974, 1981) derives a "theory of marriage" based essentially on the law of comparative advantage developed for the analysis of international

Applying this framework to the analysis of marriage, however, raises very complex issues, analytically and theoretically. Existing analyses of sex differences in marital status have frequently found that men with more resources, however these are measured, are more likely to be married than other men, and women with more resources are less likely to be married (Carter and Glick 1976; Preston and Richards 1975). Few interpret this as evidence of men's greater preference for marriage, however, arguing instead a reverse causal path: Women who remain unmarried generally must support themselves, while married women can expect to be supported by their spouses. Similarly, men who support families normally work harder and longer than those who do not (Smith 1980; Becker 1981). Appropriate research designs are needed to untangle this causal ambiguity.

The direction of causality is not the only difficult problem. Factors that have a strong influence on marital timing often have little, or even an opposite, effect on eventual marriage. Most studies of marriage have focused explicitly on timing—for example, on the mean or median age at marriage (Carter and Glick 1976; Marini 1978; Hogan 1978) or used measures of extent heavily influenced by timing, such as the proportion aged 22–24 who are married (Preston and Richards 1975). Dixon (1978) has demonstrated cross-nationally that there is only a weak relationship between the timing and extent of marriage, suggesting that results from these studies may shed relatively little light on the factors influencing eventual marriage.

A third issue derives from the mutuality of the decision to marry: Whose decision is being explained? Factors that can be interpreted as indicating preference for marriage can also reflect "marriageability." Marriage market analyses attempt to explain the positive relationship between marriage and resources among men as a result of the relative attractiveness of more wealthy men, rather than as an indicator of a male preference for marriage that possession of increased resources allows them to realize. These interpretations are reinforcing and thus difficult to separate. However, the case for women is clearer. It seems unlikely that having access to resources would make a woman *less* attractive to potential spouses. With second incomes now characterizing a majority of all marriages, women with access to more resources should be, other things equal, more attractive as wives, get better offers, and thus be more likely

trade. It is a powerful explanatory tool for phenomena associated with the division of labor by sex both within and outside marriage, but it has relatively little ability to explain nonmarriage, since a fundamental conclusion of trade analysis is that it is almost always advantageous to trade (i.e., to marry).

to marry than other women. If they do not, this suggests that they are using their resources to buy out of marriage.

The final set of questions complicating the analysis of the role of resources in the decision to marry relates to parental resources. What resources are available, to whom, and under what circumstances are difficult issues to disentangle. It is often not clear what access children have to their parents' resources (or, for that matter, wives to their husbands'). Parents are more likely to provide regular financial support to an unmarried than a married child (DaVanzo and Kobrin 1982), but they may transfer more substantial amounts of money to a married child by, for example, helping with the purchase of a house. How these effects might vary by the sex of the child and the extent to which they influence the likelihood of marriage, however, have not been established.

The analysis reported here has been designed to resolve the central problems of interpretation and causal order discussed above. We are able to eliminate the reverse effects of marriage on men's and women's economic resources in two ways. We consider only persons who are single at a given age and examine the relationship of their resources to their probability of marriage in that year, and we include measures of parental resources.

This design also allows us to study timing directly. The analysis of annual marriage probabilities is performed separately for early, middle, and later ages at marriage. Hence, we can observe changes in the structure of relationships throughout the central marriage ages (75% of the white women in these cohorts had married by about age 25, and the men by ages 26–27; Thornton and Rodgers 1983). This allows us to distinguish factors that, for example, have a strong influence on marriage at young ages but have attenuated or even reversed effects at other ages from those that have consistent effects over the range of marriage ages.

Our analysis includes four direct measures of the resources available (at least potentially) to the individual. These comprise parental educational attainment, occupational status, and family income, and the educational attainment of the individual. These resource measures provide a direct test of the relative desirability of marriage, because if they increase the likelihood of marriage, this means that individuals are using these resources to realize their preference for marriage. The extent to which these effects differ between the sexes indicates the differences in the desirability of marriage for men and women.

We also include an indirect measure of the desirability of marriage, namely, whether the respondent grew up in an intact family. We hypothesize that all measures of desirability, both direct (resources) and indirect (intact family), should have a positive impact on the probability of marriage for men, excepting those of the youngest ages who are mostly

still in school. For women, greater resources of all kinds should also reduce the probability of younger and presumably less desirable marriages, but we have no predictions for those of central and older ages, particularly for the effects of parental resources. These would provide the critical test of the relative desirability of marriage for women.

Barriers to marriage for women should relate to time and for men to employment opportunities. "Time" is measured by the year in which the individual reached a particular age still single. The data we use span six single-year birth cohorts, cohorts that were born between the mid-1940s and mid-1950s (1947–52 for males and 1949–54 for females.)³ The later part of this period included years of rapidly increasing births. According to marriage squeeze theory, the females born later should have experienced a much less favorable market than those born earlier, because of their large numbers relative to non-baby-boom males a few years older. For males, the large cohorts of baby-boom females should give those born in the later years a greater advantage in finding a mate, compared with males born earlier.

The barriers to marriage posed by the lack of employment opportunities are measured by actual employment at the beginning of the year. Employment facilitates marriage by providing the resources needed for forming and maintaining an independent household, and this effect should be particularly important for males. It also indicates, at least for men, the beginning of a lifetime of essentially continuous employment, since men are much less likely than women to exit the labor force before retirement, once they have entered it. Current employment among young women is a much weaker measure of their longer-run economic resources.

³ The sample used in this analysis includes those young men and women who were 14–19 years old in the initial survey year—1966 for males and 1968 for females. Our analytic strategy of examining determinants of marriage by single years of age means that observations for each age come from a number of survey years. For females, age 17 can be observed from 1968 to 1972; age 27 is observed between 1976 and 1978. The sample size at each age differs both because some individuals marry and leave the sample, reducing the number of observations at successive ages, and because those ages 14–18 in the first survey year may provide observations for age 19, but those 19 in that year do not (since the age by which we identify observations is the age at the end of the one-year interval). Thus, observations of marriage between ages 16 and 17 come only from those ages 14–16 in the first year (and correspond to years 1968–70), whereas observations of marriage between ages 19 and 20 come from those of all ages in the first year (and correspond to the years 1968–74). For this reason, the measure of year is not precisely comparable across the ages prior to 20 or after 24 (for females) or 26 (for males), as these latter are the oldest ages observed for the youngest members of the cohort. These differences widen at the earliest and latest ages considered here, but in no case are they severe. The meaning of the YEAR variable is directly comparable across the ages in which the marriage market is most active for both sexes.

So we have included an additional indicator for women in order to tap this dimension, their plans for working at age 35.

The analysis also included other measures thought to be important in the analysis of marriage. They serve primarily as controls, but it is valuable to study their effects comparatively between men and women, which has never been done before in this dynamic life course framework. We include three measures that should affect men and women similarly, since they define marriage market boundaries based on custom or propinquity. These are race (black/nonblack), size of place, and region (South/non-South). Black men and women tend to marry later than others (Spanier and Glick 1980; Michael and Tuma 1983), as do those living in larger cities and outside the South (Waite and Spitze 1981).

The analysis also includes controls for other roles important in the transition to adulthood. Unmarried young adults deciding whether and when to marry are likely to be influenced by the other economic and family roles that they occupy or plan to occupy and how marriage relates to them. A major tenet of life course analysis is that the timing and sequencing of one set of roles in the transition to adulthood depend on the progress of each of the others (Hogan 1978; Elder and Rockwell 1976). Economic roles are not limited to employment but include school enrollment and military service as well; family roles derive from being a parent (unmarried) and/or a child (living in the parental household).

The conflict or congruence between different roles depends on their demands, which often vary by the sex of the individual. School enrollment and military service can be expected to conflict with marriage for both sexes (Marini 1984; Haggstrom et al. 1984). Single parenthood, by contrast, normally only affects women and leads to substantial financial disadvantage (Ross and Sawhill 1975; Hoffman 1977). This increases the advantages to marriage, so single mothers should be willing to lower their standards for an acceptable spouse. The opposite should be true for young persons who have already established a residence independent from their parents. They have already left the child role and have less reason to marry in order to establish themselves as adults.

DATA AND METHODS

Data for this analysis come from the National Longitudinal Surveys of Young Women and Young Men. These surveys, conducted by the Ohio State University Center for Human Resource Research, include information over a recent 15-year period on more than 10,000 young men and women. Personal interviews were conducted with national probability samples of the noninstitutionalized population of females aged 14–24 in 1968 and males 14–24 in 1966. Those included responded to lengthy

interviews in many of the successive years.⁴ Attrition from the sample over the panel period has been low; three-fourths of the original Young Women's sample was reinterviewed in 1978, and two-thirds of the original Young Men's sample was reinterviewed in 1980, the last years used.

The analysis reported here uses measures of stable respondent characteristics, such as race and parental education, taken at the initial survey (1966 for the Young Men, 1968 for the Young Women). Independent variables measuring the respondent's current situation—for example, employment or education—reflect the value at the beginning of the year in question. Our analysis of the transition to first marriage uses a subset of the NLS respondents. We include those aged 14–19 in the first year of the survey, to allow us to include measures of certain characteristics of the parental family. Table 1 presents definitions, means, and standard deviations of the variables included in our model of first marriage.

This analysis uses observations on each respondent over several one-year periods. The dependent variable is first marriage during the year for those never married at the beginning of the year. Because this process differs substantially by respondent's age (Waite and Spitze 1981; Kobrin and Waite 1984), we estimate all models separately for ages 17–20, 21–24, and 25–27 for women and ages 18–21, 22–25, and 26–29 for men, pooling observations within these categories. The grouping of annual observations allows the effects of all variables to differ for “early,” “average,” and “late” marriages, but it reduces the amount of random variation found in equations by single years of age. We also included for each sex a summary equation for all ages 17–27 (women) and 18–29 (men).⁵ The first equation is for those who had never married by the interview date that corresponds to ages 17–20 for men and ages 16–19 for women. These constituted the sample eligible to marry for the first time during the coming year. A respondent supplies annual observations only until he or she marries, ending with age 29 for males and 27 for females, after which the number of those never married becomes too small to support analysis.

As the dependent variables in this analysis can have codes of only zero or one, we estimated all equations using logistic regression, a maximum-likelihood technique appropriate for analysis of dichotomous dependent variables (Goodman 1976). For individual i with values on the indepen-

⁴ The NLS Young Women were interviewed annually from 1968 through 1973 and again in 1975, 1977, and 1978; the Young Men annually from 1966 through 1971 and again in 1973, 1975, 1976, 1978, and 1980.

⁵ The pooling of observations means that a single sample may contain multiple observations on a single individual, leading to underestimates of the standard errors of the effects (Duan et al. 1982). The pooled samples are also weighted somewhat toward the younger ages of marriage.

TABLE 1
DESCRIPTION OF INDEPENDENT VARIABLES USED IN ANALYSIS

CHARACTERISTICS	CODES	MEANS AT AGE 22	
		Males	Females
I. Market:			
Black	1 = yes, 0 = no	.2206	.3232
South	1 = yes, 0 = no	.2757	.3496
City size	Scale from 1 = rural to 8 = urbanized areas of ≥ 3 million	2.7185 (2.5907)	3.4657 (2.4225)
Year	Year from which observation comes (1968-77, girls; 1966-78, boys)	70.045 (1.4636)	72.086 (1.5358)
II. Concurrent roles at beginning of interval:			
Enrollment	Enrolled in school full-time (1 = yes, 0 = no)	.3350	.3760
Away	Living outside the parental home (1 = yes, 0 = no)	.4428	.3958
Employment	Current full-time or part-time employment (1 = yes, 0 = no)	.7300	.6160
Military	Active military duty (1 = yes, 0 = no)	.2181	N.A.
Kids	Presence of own child (1 = yes, 0 = no)	N.A.	.1200
Pregnant	Had live birth within seven months (1 = yes, 0 = no)	N.A.	.0699
Work at 35	Plans to hold a job at age 35	N.A.	.6042
III. Desirability:			
Intact	Living with two natural parents when respondent age 14	.8527	.8364
Education	Years of schooling completed	12.863 (1.9685)	12.991 (1.8931)
Parent's education ..	Average years of schooling completed by parents	10.618 (3.1799)	10.900 (3.1709)
Household head's occupation	Score on the Duncan SEI when respondent age 14	36.285 (25.035)	34.473 (25.052)
Family income	Parental family income when respondent about age 17 (constant US\$ thousands)	8.7770 (7.0060)	8.9170 (7.4835)

NOTE.—Numbers in parentheses are SDs.

dent variables denoted by the vector \mathbf{X}_i , the probability that $Y_i = 1$ (the person married) is

$$P_i = \frac{1}{1 + e^{-\mathbf{X}_i\beta}},$$

and the probability that $Y_i = 0$ (the person remained unmarried) is

$$1 - P_i = \frac{e^{-\mathbf{X}_i\beta}}{1 + e^{-\mathbf{X}_i\beta}} = \frac{1}{1 + e^{\mathbf{X}_i\beta}},$$

where P_i and $1 - P_i$ are hypothesized to be related to \mathbf{X}_i and β through the logistic function (Hanushek and Jackson 1977). To permit comparison of the effects of the independent variables across equations, we transformed the logit coefficients to yield measures analogous to unstandardized ordinary least squares (OLS) regression coefficients (Hanushek and Jackson 1977). The transformed logit coefficients reflect the estimated effect of a unit change in the independent variable on the probability of marriage during a given year, evaluated at the sample means. Because of the inherent complexity of our approach, the large number of samples, and the even greater number of effects estimated, we present a straightforward analysis: We examine direct effects only and do not explore nonlinearities or nonadditivities (Stolzenberg 1979).

RESULTS

Table 2 presents for males and females, respectively, the transformed logit coefficients measuring the effects of these variables on the annual probability of early, average, and later marriage for men and women.⁶ We also estimate identical models of one-year marriage probabilities for all ages combined: 16–27 for women and 18–29 for men. These provide a summary of cumulative effects over the whole period of observation. These summary models are shown in the farthest right-hand column of the table.⁷

⁶ To measure the overall fit of the models, we calculated two times the log likelihood ratio, which is distributed as χ^2 (Mood and Graybill 1963, p. 301). This statistic measures the probability that all coefficients in the models could actually be zero and corresponds roughly to R^2 in OLS regression models. The summary models for both males and females are highly significant, as are models for early, average, and late ages of marriage.

⁷ We estimated all models with and without controls for variation in age within these multiage groupings: The results for other variables are identical; for females, age has no effect on the probability of marriage within these categories or overall, and for males, it increases marriage chances somewhat between ages 18 and 22. For simplicity we present only the models without age.

TABLE 2
 TRANSFORMED LOGIT COEFFICIENTS FOR MODEL OF YEARLY PROBABILITIES OF FIRST MARRIAGE

AGE AT END OF Year	MALES					FEMALES				
	18-21	22-25	26-29	All	17-20	21-24	25-27	All		
Constant	-.729	.290	.203	-.198	-.907	1.412	-.994	.209		
Market:										
Black	-.041**	-.046**	-.004	-.038**	-.146**	-.111**	-.080*	-.132**		
South	.027**	.015	-.046**	.016**	.050**	.010	.020	.036**		
City size	-.003*	-.005*	-.010**	-.005**	-.008**	-.006*	.001	-.006**		
Year	.007**	-.009**	-.006	-.001	.010**	-.026**	.009	-.007**		
Concurrent roles:										
Enrollment	-.076**	-.005	.062*	-.068**	-.081**	-.065**	.003	-.080**		
Away	.020*	.003	.006	.014*	-.007	-.024	-.029	-.011		
Employment	.039**	.088**	.097**	.051**	.024**	.029	.097**	.025**		
Military	-.045**	-.069**	-.125	-.044**	N.A.	N.A.	N.A.	N.A.		
Kids	N.A.	N.A.	N.A.	N.A.	.036	-.029	-.009	.003		
Pregnant	N.A.	N.A.	N.A.	N.A.	.206**	.171**	.144**	.200**		
Work at 35	N.A.	N.A.	N.A.	N.A.	-.029**	.004	-.058**	-.017**		
Desirability:										
Intact	.005	.039*	-.013	.011	-.017	.040*	.160**	.011		
Education	.008**	.008**	-.001	.010**	.018**	.018**	-.001	.019**		
Parents:										
Education	-.002*	-.002	.005	-.002*	-.009**	-.002	-.006	-.007**		
Occupation	-.001**	-.001*	-.001*	-.001**	.000	.000	.000	.000		
Family income	.000	.001	-.001	.000	-.001	-.002	-.003	-.001*		
Annual proportion										
marrying	.083	.156	.113	.105	.120	.167	.110	.134		
2 x log likelihood	227.06	60.34	23.86	337.36	519.20	142.85	34.49	599.70		
N	7,400	3,190	1,137	11,727	5,630	2,703	556	8,889		

* .05 < P < .10 for two-tailed test.

** P < .05 for two-tailed test.

Marriage Market

Overall, this class of variables—which includes race, region, size of place, and time—had the most consistently similar effects on men and women. This suggests that these measures define common markets or conditions for marriage that affect men and women in them similarly. This result was expected for race, region, and size of place, but the results for time do not strongly support the marriage squeeze hypothesis.

Briefly, the results for race indicate that young black men and women are much less likely than those of other races to marry during the early and central marriage ages for their sex (17–24 for women, 18–25 for men) with somewhat less difference at the older ages. City size and region produced effects nearly as consistent. The probability of marrying decreases with community size for both men and women, but primarily at the younger ages for women and at the older ages for men. Southerners, however, were more likely to marry young. Southern men were less likely to marry at older ages than those in other regions, but this was not the case for southern women. The lower level of similarity of these two variables in contrast to race suggests that community and region do not define marriage markets as tightly as does race.

The coefficients for YEAR, included to reflect changing marriage market conditions, are quite similar in direction and in age pattern for men and women, although the effects are stronger for women. The probability of marriage seems actually to have increased at the very youngest ages. Marriage squeeze theory predicts that the effect on marriage of reaching a given age later in the time period should be negative for women. This is the case, but it is also true for men. This result makes it seem unlikely that the decrease in probability of women's marrying primarily reflects the shortage of male eligibles because young men did not respond to the increase in the number of female eligibles by increasing their marriage rate. This suggests that while the marriage squeeze may have had a strong impact on who was marrying whom among those who did marry, it was having less impact on the probability of marriage per se. The major decline in young people's probability of marriage occurred for other reasons.

Concurrent Roles

Somewhat larger sex differences appear in the results measuring the effects of concurrent activities on men's and women's probabilities of marriage than for the measures of marriage markets. The differences appear most sharply for those activities linked to the traditional sexual division of labor within marriage—work and school roles. Enrollment has a negative effect on marriage rates for young persons of both sexes, but the

effect is stronger for women and characteristic over a somewhat longer range of marriage ages. This suggests that school continuation is usually more difficult within marriage for women than for men. This interpretation is reinforced by considering its effects on men aged 26 and older, where it appears that those enrolled in school are more likely to marry, which is not true for women over age 24 (see also Voss 1975; Marini 1978).

Although enrollment has stronger effects among women, employment has greater impact on men and is one of the strongest predictors of marriage for men. Clearly, difficulties in becoming employed continue to affect the marriage chances of young men and may have contributed to the decline in marriages during the period. The effects of current employment are consistently positive for women as well, particularly at the youngest and oldest ages, but the effects are somewhat weaker. Military service was included only for males, and the results show that men in the military at the beginning of a year are unlikely to marry during that year.

Turning to concurrent family roles, we find that leaving the parental home before marriage seems to have no significant effects for women and to increase men's chances of marriage at the youngest age and overall.⁸ Young unmarried women who have already borne children are only very slightly less likely to marry than childless women at most ages. The only exception is at the youngest ages, when they are slightly more likely to marry. The effects of premarital pregnancy, in contrast, are very strong, increasing the probability of marriage by about 20 percentage points.⁹

Desirability

The final measures presented in table 2 explore the structure of sex differences in the desirability of marriage. We examine whether the family was intact when the young adult was 14 and four dimensions of socioeconomic status—the educational attainment of young people and their parents, father's occupational prestige, and family income when respondents were aged 17.

⁸ More detailed analysis of the effect of living arrangements shows that the experience of nonfamily living early in the transition to adulthood does result in a decrease in the probability of subsequent marriage, but only for women (Goldscheider and Waite 1985).

⁹ However, interpreting this result poses problems of causal order. For many couples, such pregnancies are the result of a well-advanced courtship that would have led to marriage eventually, if not so soon. The pregnancy is continued because of the expected marriage. In this case, the relationship observed is spurious. In order to determine how much of the effect is genuinely causal, with young women "in trouble" accepting inferior spouses (Becker 1981), one would need much richer data on courtship behavior, particularly data on impending parenthood for men.

The "INTACT" row displays the pattern we hypothesized for women.¹⁰ Growing up in a family that was unbroken until they reached at least age 14 was associated with a small but significant increase in the likelihood of marriage after age 20. For younger women, the results suggest that some portion of early marriages provide an escape from a complex home situation. For men, the negative effects for teenagers do not appear, and the positive effects exist only at ages 22–25.

Experience with stable marriage, then, may increase young people's likelihood of entry into marriage, presumably by increasing their preference for marriage relative to those with more disruptive family experiences. For those with given preferences, however, how does the possession of greater resources affect the probability of marriage?

Educational attainment affects young men and women very similarly—it increases their probability of marriage. At the youngest ages, the negative effect of enrollment is controlled and the effect simply reflects grade advancement. By the central marriage ages, however, school enrollment is relatively rare. These strong, positive effects, coupled with the negative effects of school enrollment at the earlier ages, suggest that education per se operates primarily on the timing of marriage, postponing it into ages after schooling is completed. Bloom and Bennett's (1985) finding of a positive association between educational attainment and age at marriage, but not between it and eventual marriage, supports this interpretation.

The effects of parental education, however, cannot be interpreted so simply. Significant negative effects appear early for both sexes, suggesting that higher levels of parental education reduce the probability of young marriages, especially for women. However, although the relative effect of parental education on the marriage probabilities of males weakens and becomes positive at older ages, negative effects for females continue, and the overall effect of parental education becomes even more strongly negative. This suggests a timing effect only for males, whereas for females, parental education may reduce the probability of marriage by reinforcing alternatives to traditional family roles.

The most direct indicators of the effects of parental resources at the times their children are marrying are father's occupational prestige and family income, measured close to the ages at which their children were entering the transition to adulthood. An unusual and strongly sex-differentiated pattern appears in these detailed results. At all marriage ages, parental income decreases the probability of a woman's marrying

¹⁰ More detailed analysis by race shows that the effects are strongest for white women and black men (Kobrin and Waite 1984).

but has no effect for males; father's occupational prestige significantly decreases the probability of a man's marrying, but not of a woman's.

The results for males are consistent with prior research relating occupation to fertility (Freedman 1963; Oppenheimer 1982). Occupations define individuals' expected life-styles, that is, their reference groups. Among families with comparable incomes, the higher the occupational prestige, the higher the life-style requirements, which are apparently achieved not only at the expense of fertility (as Freedman [1963] argues) but also at the expense of marriage in the next generation.

However, females show opposite results. Despite its life-style effects, father's occupational prestige does not deter a woman's marriage, even though family income makes marriage less likely at most ages and over all ages. This seems to suggest a very different interpretation. In the American occupational structure, the resources associated with father's occupation are much more transferable to sons-in-law than to daughters, because they can involve sponsorship for trade school admittance, union membership, or jobs, as well as access to the network of business contacts that produces clients, capital, and customers. These resources increase in value as class background improves. It is necessary for their daughters to marry in order to realize such resources, and thus, as class increases, the opportunity cost of nonmarriage increases as well. These effects would offset the effects of the life-style requirements of father's occupation. In contrast, family income can be transferred directly and, to the extent that this happens, may be used by young women to buy out of marriage.

DISCUSSION

When both sexes are analyzed comparatively, in a format that separates the effects that influence earlier marriage from later, patterned sex differences in the determinants of marriage emerge. Many of the differences are predictable from the basic differences in the social roles of men and women in American society. Others, however, suggest a basis for understanding the decline in the marriage rates that has characterized the recent past.

The greatest similarities between men and women appeared in the effects of those measures that delineate marriage markets and suggest the strength of the social mappings that underlie such markets. Within markets, there are factors that differentiate the sexes, in terms of the differences in responsibilities, options, and interests associated with their separate roles (including marital ones). These provide important clues about the forces underlying the retreat from marriage since the 1960s.

What were the factors that influenced the differential probabilities of marriage of men and women? Long-term employment increased the like-

likelihood of marriage for men but not for women, whereas coming from a broken family reduced the likelihood of marriage, but only for women. Our results demonstrate that traditional definitions still dominate sex roles within marriage, assigning responsibilities outside the home—particularly economic ones—to men and giving women the more intensive role in the home while limiting women's adult independence in other ways. This would explain the greater effect on women of coming from an intact family, because, for women, family roles are still more extensive and the risks greater.

This traditional definition of marriage appears more strongly for factors reflecting parental resources. Father's occupational prestige affected men negatively, while family income had negative effects only for women. Men not only inherit the options conferred by occupational positions but also bear the cost of maintaining the life-style requirements associated with them. Women are less likely to inherit such options since most are closed to them, and they can only pass them on to a spouse. Income, however, is passed on, at least to some extent, to sons as well as daughters, and they "spend" it in different ways. Women, but not men, use it to substitute for marriage.

This result is very difficult to explain in terms of reverse causality. Unmarried women certainly have to earn more than married ones. It is even plausible that those who are more likely to remain single for other reasons might be more likely to plan for that state by increasing their investment in human capital (Becker 1981), although this effect should be controlled by including work plans in the model. However, it is hard to argue that, in the United States in the 20th century, *parents* who expect that their daughters might have difficulty in the marriage market would have been able to increase their family income in time to meet this contingency.

Some support was found for traditional interpretations of the decline in marriage rates. Male employment is clearly important in encouraging marriage, and the difficulties that young men have increasingly faced in the job market must have had some influence. The fact that the decline in marriage rates over time was greater for women than for men suggests that the marriage squeeze was acting as a further brake on women's transition to marriage relative to that of the men in their cohort. But men's rates were going down, too, even with their employment difficulties controlled for and despite their advantage in the marriage market that is based on their relative numbers. The analysis presented suggests that these changes are the result of the reduced willingness of women to marry and of their increased ability to support themselves outside marriage.

On the basis of the coefficients shown here, simple things like the secular increase in parental education would affect women more than

men. Family disruption is increasing, but it is women who have responded by increasingly forgoing marriage when they have experienced such disruption while growing up. There is other evidence that women are more responsive to changes in opportunities for nonfamily roles, for example, their greater wage sensitivity (Smith 1980). All of these seem to suggest that the recent decline in marriage rates should not be seen as resulting primarily from increased barriers to marriage but from decreases in women's relative preference for marriage because of their increased options outside of marriage.

These effects, however, would have their greatest impact on "traditional" marriages based on the sexual division of labor. To the extent that marriages are becoming less traditional, with men increasingly involved in the home and wives more involved in nonfamily activities, we would expect these effects to weaken. Indeed, the generally positive coefficients for female short-term employment suggest that men choose wives who can share some economic responsibility. If further research can show that men who are less traditional in their sex-role orientations relative to those of women in the home (e.g., those who expect fewer children or are willing to take over more child care) are also more likely to marry, this would support our argument that we are observing not simply a decline but rather a restructuring and transformation of the role of marriage in men's and women's transitions to adulthood.

REFERENCES

- Becker, G. S. 1973. "A Theory of Marriage: Part I." *Journal of Political Economy* 81:813-47.
- . 1974. "A Theory of Social Interactions." *Journal of Political Economy* 82:6.
- . 1986. *A Treatise on the Family*. Cambridge, Mass.: Harvard University Press.
- Bernard, Jessie. 1972. *The Future of Marriage*. New York: World.
- Bloom, David E. 1982. "What's Happening to Age at First Birth in the United States? A Study of Recent Cohorts." *Demography* 19:351-70.
- Bloom, David E., and Neil G. Bennett. 1985. "Marriage Patterns in the United States." Discussion Paper no. 1147. Cambridge, Mass.: Harvard Institute of Economic Research.
- Carter, Hugh, and Paul C. Glick. 1976. *Marriage and Divorce: A Social and Economic Study*. 2d ed. Cambridge, Mass.: Harvard University Press.
- DaVanzo, Julie, and Frances E. Kobrin. 1982. "Leaving the Nest and the Transition to Adulthood." Paper presented at the Workshop on Family and Household Demography, NICHD. Washington, D.C.: National Institute of Child Health and Human Development.
- Dixon, Ruth B. 1971. "Explaining Cross-cultural Variations in Age at Marriage and Proportions Never Marrying." *Population Studies* 25:221-23.
- . 1978. "Late Marriage and Non-Marriage as Demographic Responses—Are They Similar?" *Population Studies* 32:449-66.
- Duan, N., W. G. Manning, Jr., C. N. Morris, J. P. Newhouse. 1982. *A Comparison of*

American Journal of Sociology

- Alternative Models for the Demand for Medical Care*. Report no. R2754-HHS. Santa Monica, Calif.: Rand.
- Easterlin, Richard A. 1978. "What Will 1984 Be Like? Socioeconomic Implications of Recent Twists in Age Structure." *Demography* 15:397-432.
- Ehrenreich, Barbara. 1983. *Hearts of Men: American Dreams and Flight from Commitment*. Garden City, N.Y.: Doubleday.
- Elder, Glen H., and R. C. Rockwell. 1976. "Marital Timing in Women's Life Patterns." *Journal of Family History* 1:34-53.
- Ellwood, David T., and Mary Jo Bane. 1984. "The Impact of AFDC on Family Structure and Living Arrangements." Report to DHHS Grant no. 92-A-82. Cambridge, Mass.: Harvard University.
- Freedman, Deborah. 1963. "The Relation of Economic Status to Fertility." *American Economic Review* 53:414-26.
- Glick, Paul C. 1984. "Marriage, Divorce, and Living Arrangements." *Journal of Family Issues* 5:7-26.
- Glick, Paul C., and Arthur J. Norton. 1977. "Marrying, Divorcing and Living Together in the U.S. Today." *Population Bulletin*, vol. 32. Washington, D.C.: Population Reference Bureau.
- Goldscheider, Frances K., and Julie DaVanzo. 1985. "Living Arrangements and the Transition to Adulthood." *Demography* 22:545-63.
- Goldscheider, Frances K., and Linda J. Waite. 1985. "Effects of Nestleaving Patterns on the Transition to Marriage." Paper presented at the meeting of the Population Association of America, Boston.
- Goldscheider, Frances K., and Celine LeBourdais. 1986. "The Decline in Age at Leaving Home, 1920-1979." *Sociology and Social Research* 70:99-102.
- Goodman, Leo A. 1976. "The Relationships between Modified and Usual Multiple-Regression Approaches to the Analysis of Dichotomous Variables." Pp. 83-110 in *Sociological Methodology*, edited by D. Heise.
- Gove, Walter R. 1972. "Sex Roles, Marital Roles and Mental Illness." *Social Forces* 51:34-44.
- . 1973. "Sex, Marital-Status, and Mortality." *American Journal of Sociology* 79:45-67.
- Gove, Walter R., and Michael Hughes. 1979. "Possible Causes of the Apparent Sex Differences in Physical Health." *American Sociological Review* 44:126-46.
- Haggstrom, G., L. Waite, D. Kanouse, and T. Blaschke. 1984. *Consequences of Parenthood for the Activities of Young Adults*. Report no. R-3182-NICHD. Santa Monica, Calif.: Rand.
- Hajnal, John. 1965. "European Marriage Pattern in Perspective." In *Population in History*, edited by D. V. Glass and D. Eversley. Chicago: Aldine.
- Hanushek, Erik A., and John E. Jackson. 1977. *Statistical Methods for Social Scientists*. New York: Academic Press.
- Heer, David M., and Amyra Grossbard-Shechtman. 1981. "The Impact of the Female Marriage Squeeze and the Contraceptive Revolution on Sex Roles and the Women's Liberation Movement in the United States, 1960 to 1975." *Journal of Marriage and the Family* 43:49-65.
- Hoffman, Saul. 1977. "Marital Instability and the Economic Status of Women." *Demography* 14:67-76.
- Hogan, Dennis P. 1978. "The Effects of Demographic Factors, Family Background, and Early Job Achievement on Age at Marriage." *Demography* 15:161-75.
- Kobrin, Frances E., and Linda J. Waite. 1984. "Effects of Childhood Family Structure on the Transition to Marriage." *Journal of Marriage and the Family* 46:807-16.
- Marini, Margaret Mooney. 1978. "The Transition to Adulthood: Sex Differences in Educational Attainment and Age at Marriage." *American Sociological Review* 43:483-507.

- . 1984. "Women's Educational Attainment and Parenthood." *American Sociological Review* 49:491–511.
- Michael, Robert T., and Nancy Brandon Tuma. 1983. "Entry into Marriage and Parenthood by Young Adults." Paper presented at the meeting of the Population Association of America, Pittsburgh.
- Mood, Alexander M., and Franklin A. Graybill. 1963. *Introduction to the Theory of Statistics*. New York: McGraw-Hill.
- Nye, F. Ivan. 1978. "Is Choice and Exchange Theory the Key?" *Journal of Marriage and the Family* 40:219–33.
- Oppenheimer, Valerie. 1982. *Work and the Family: A Study in Social Demography*. New York: Academic Press.
- Preston, S. H., and A. T. Richards. 1975. "The Influence of Women's Work Opportunities on Marriage Rate." *Demography* 12:209–22.
- Ross, Heather, and Isabel Sawhill. 1975. *Time of Transition: the Growth of Families Headed by Women*. Washington, D.C.: Urban Institute.
- Smith, James P. 1980. *Female Labor Supply: Theory and Estimation*. Princeton, N.J.: Princeton University Press.
- Spanier, Graham B., and Paul C. Glick. 1980. "Mate Selection Differentials between Whites and Blacks in the United States." *Social Forces* 53:707–725.
- Stolzenberg, Ross M. 1979. "The Measurement and Decomposition of Causal Effects in Nonlinear and Nonadditive Models." Pp. 459–88 in *Sociological Methodology, 1980*, edited by K. F. Schuessler. San Francisco: Jossey-Bass.
- Thornton, Arland, and Deborah Freedman. 1982. "Changing Attitudes toward Marriage and Single Life." *Family Planning Perspectives* 14:297–303.
- Thornton, Arland, and Willard Rodgers. 1983. *Changing Patterns of Marriage and Divorce in the United States*. Final Report to NICHD, Contract no. N01-HD-02850. Ann Arbor: University of Michigan.
- U.S. Bureau of the Census. 1983. "Marital Status and Living Arrangements: March 1983." *Current Population Reports*, Series P-20, no. 389. Washington, D.C.: Government Printing Office.
- Voss, Paul R. 1975. "Social Determinants of Age at First Marriage in the United States." Ph.D. dissertation, University of Michigan, Department of Sociology.
- Waite, Linda J. 1981. "U.S. Women at Work." *Population Bulletin*, vol. 36, no. 2. Washington, D.C.: Population Reference Bureau.
- Waite, Linda J., and Glenna D. Spitze. 1981. "Young Women's Transition to Marriage." *Demography* 18:681–94.
- Young, Christobel. 1984. "The Effect of Children Returning Home on the Precision of the Timing of the Leaving Home Stage of the Family Life Cycle." Paper presented at the seminar on the Demography of the Later Phases of the Family Life Cycle, International Union for the Scientific Study of Population, Berlin.

RAND'S POPULATION RESEARCH CENTER

The Population Research Center was established in 1979 to advance the basic research aims of its sponsoring agency, the National Institute of Child Health and Human Development. The Center strengthens and focuses academic population studies within RAND's broader problem-solving environment.

