How Do Married Men Get Ahead?

A Process-Based Examination of the Male Marriage Premium

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Abstract. The wage premium for married men is well-documented. Prior research has concentrated on understanding why this might be so, focusing on the role of household specialization. Largely absent from this research is attention to the *job processes* by which married men realize wage gains. We propose three possible pathways: (1) increased work experience, (2) improved employment histories, including longer job tenure and fewer nonemployment spells, and (3) moves to higher-paying job types. We find that each of these processes contributes to the male marriage premium, although work experience is the most important. We further find that increases in work experience benefit married men about equally, regardless of wives' labor supply, casting doubt on a pure specialization explanation. Lastly, we demonstrate the importance of flexibly specifying mediating variables: Conventional measures of work experience substantially understate the share of the marriage premium attributable to changes in work hours.

It is well-documented that married men earn higher wages than unmarried men (Chun and Lee 2001; Cohen 2002; Gray 1997; Hersch and Stratton 2000; Killewald and Gough 2013; Loh 1996). Research on the male marriage premium has primarily focused on evaluating two explanations for this phenomenon: selection and household specialization (Chun and Lee 2001; Gray 1997; Hersch and Stratton 2000; Killewald and Gough 2013; Korenman and Neumark 1991). Alternative explanations include a "settling down" effect of marriage on men's behavior (Nock 1998) and changes in the weight men put on the financial rewards of employment (Gorman 2000). Still other work suggests that married men may benefit from discrimination in their favor, especially as they conform to norms of masculinity (Hodges and Budig 2010).

Although these theories diverge in their understandings of the forces shaping the male marriage premium, they are united in being more concerned with the *why* than the *how* of the association between marriage and men's wages. That is, if marriage makes men more productive, how is that translated into higher wages? Regardless of whether the cause is specialization or changes in men's preferences and pro-social behavior, does the marriage premium arise primarily by increasing men's likelihood of moving into higher-paying jobs? Or by increasing work hours and job tenure? We don't know. Likewise, if employers discriminate in favor of married men, does this tend to take the form of hiring discrimination, leading to placement in higher-paying jobs, or more rapid wage growth within jobs?

Our approach is more oriented toward process than theory. Rather than outlining theoretical reasons that marriage may change men's wages, we seek to evaluate *by what processes* these changes occur. We argue that the role of jobs has been largely lacking

from prior literature on the marriage premium. We estimate the portions of the marriage premium that can be explained by (1) increased work experience and work hours; (2) altered employment history, as indicated by job stability, employment gaps, and reasons for job separation; (3) changes in the characteristics of jobs held. We also demonstrate that researcher decisions about the specification of these mediating variables have a considerable effect on the variation explained: Estimates of the residual marriage premium not explained by other traits is substantially reduced when more flexible measures of experience and employment history are used.

Although our approach is not explicitly designed to adjudicate among competing theoretical frameworks regarding the cause of the male marriage premium, our processual decomposition also sheds some light on the likely importance of these explanations. For example, if increases in men's work hours and job tenure are the largest contributors to the marriage premium, this is more consistent with specialization or changes in men's preferences than with employer discrimination.

Because of the extensive attention paid to the specialization hypothesis in the existing literature, we also examine to what extent each of the three processes listed above explains the gap in the marriage premium between men with wives who are employed full-time and those whose wives have lower labor supply. If longer work hours are *not* the primary mediator of this difference, it suggests that specialization is a more complex process than simply a tradeoff of paid and unpaid work hours between spouses.

Background

The dominant causal explanation for the male marriage premium is that men's wages increase when they marry because they are able to engage in household specialization (Becker 1991). In this framework, marriage is assumed to allow men to devote more effort to paid labor, while their wives take responsibility for unpaid labor. There is some support for this perspective, often based on the finding that men's marriage premium is larger when their wives spend less time in the labor market (Chun and Lee 2001). Critics have argued that, contrary to the predictions of specialization, wives' employment does not moderate the male marriage premium (Loh 1996; Lundberg and Rose 2000), changes in husbands' household labor time do not appear to explain the marriage premium (Hersch and Stratton 2000), and, furthermore, *both* men and women experience a wage premium at marriage (Dougherty 2006; Killewald and Gough 2013).

Given the mixed and limited evidence that specialization explains the marriage premium, some scholars have turned to other explanations, which may be considered as either alternatives or supplements to the specialization hypothesis. One prominent such argument is that marriage induces a "settling down" effect on men, encouraging more pro-social behavior and investment in productive organizations and networks (Nock 1998; Waite and Gallagher 2000). These changes may benefit men's wages by broadening their job networks, improving their mental and physical health in ways that improve job performance, or improving their reliability and commitment to work. Finding that men earn a larger marriage premium when married to more highly-educated wives, Loh (1996) argues that women's human capital may also benefit their husbands' wages, as wives may strategize with husbands about how to complete work or how to

navigate job choices and changes. These mechanisms focus on the ways marriage might make men more productive at work, increasing their wages, even in the absence of specialization.

Regardless of whether marriage makes men more productive and highly-rewarded because of specialization or some other process, it is relevant to ask how those behaviors translate into wage gains. We propose three primary pathways: (1) increased work experience and work hours; (2) altered employment history, as indicated by job stability, employment gaps, and reasons for job separation; (3) changes in the characteristics of jobs held.

Work Experience

Although the Becker model of household specialization formally specifies that marriage will affect the *effort* devoted to paid and unpaid labor, it is reasonable to suppose that increased effort in paid labor might include increased time. Consistent with this model, there is some evidence that marriage is associated with increased labor supply (Nock 1998). Of course, increased employment hours may directly lead to annual earnings increases for workers paid an hourly rate. But increases in employment hours may also generate an increase in the hourly rate of pay, either by leading to more rapid human capital development or by signaling work commitment to employers.

Employment History

In addition to the intensity of work hours, marriage may alter the frequency of and reasons for men's job changes. If marriage has a stabilizing effect on men, we would expect that married men are less likely to be involuntarily terminated and have longer tenure with their current employer. Given that unemployment has been associated with

increased risk of divorce (Charles and Stephens Jr 2004), married men may also face increased incentives to return to work rapidly after a job loss. Prior research suggests that married men are less likely to be involuntarily terminated and less likely to quit without a job in hand (Gorman 1999), suggesting that marriage will lead men to accumulate more steady employment histories. Because unemployment spells, involuntary terminations, and quits without another job in hand are associated with reduced wages (Fuller 2008; Gorman 1999), we expect that the marriage premium is in part the result of marriage's effect on employment history.

Job Traits

Finally, marriage might motivate men to choose the types of jobs that pay well. In order to fulfill norms of financial providership, husbands might forego other benefits, such as job flexibility, in order to maximize pay. Gorman (2000) finds that, when asked to report how much they value various traits of jobs, pay ranks more importantly for married than unmarried men. Furthermore, married men report being less satisfied with their financial circumstances (Pollmann-Schult 2011). These findings suggest that marriage may induce men to move into more lucrative fields. Indeed, married men are more likely to experience job changes associated with wage gains (Pollmann-Schult 2011).

In this paper, we attempt to identify the most important mediators of the association between marriage and wages for men. In this way, we provide greater insight about the concrete path by which marriage translates into higher wages for men and point the way to future research that can focus on these mechanisms. However, there is no clear mapping between specific mediating variables and the various theoretical explanations for the male marriage premium. For example, if marriage is associated with higher wages

for married men because it is associated with holding jobs in more lucrative occupations, it is not clear whether this is because household specialization allows husbands to invest in necessary training to change occupations, or whether marriage motivates men to seek this training – regardless of the actions of their wife – or whether husbands benefit from hiring discrimination in their favor when they attempt to change jobs. Nonetheless, some processes are more consistent with certain theoretical frameworks than others. In the example above, if the different occupations held by married and unmarried men explain the marriage premium, it is unlikely that within-job pay discrimination is the explanation.

Data and Methods

To evaluate the processes by which married men translate changes in job behavior into wage gains, we use data from the 1979-2010 waves of the 1979 cohort of the National Longitudinal Survey of Youth (NLSY79) (Bureau of Labor Statistics 2010). The NLSY79 is a nationally representative, panel study that follows individuals from 1979 through the present. We limit our analyses to the 6,403 men in the sample, who were ages 14-22 in 1979. The NLSY79has been used often in previous studies of job mobility (Farber 1999; Fuller 2008) and of the association between family attributes and wages (Budig and England 2001; Glauber 2007; Glauber 2008; Killewald 2013; Killewald and Gough 2013; Loughran and Zissimopoulos 2009). For our purposes, the NLSY79 has the advantage of consistent information on marital and parenthood statuses and direct measures of both hourly wages and job changes.

We exclude from the sample observations when individuals are under the age of 18 or currently a full-time student, since wages in this period are likely to be poor

predictors of later wages. We also exclude observations in which the respondent is a member of the military on active duty and does not report any civilian jobs since the last interview. We exclude one observation for which neither the date nor the month of the interview was recorded, as well as 48 observations for which it is not possible to determine which job is the most recent job for which wages are reported. We also exclude observations from those who are currently self-employed, since for this population wages offer an incomplete picture of labor income. This yields a restricted sample of 6,156 men.

We drop individuals who married before the age of 18. Since our analytic approach relies on within-person comparisons and excludes observations when respondents are younger than age 18, this group does not contribute to the estimates of the marriage premium. This exclusion reduces the sample size to 5,934 men.

Since our key research question is how entrance into marriage affects job mobility patterns and wages, we censor individuals at the end of their first marriage. Our sample is thus composed only of observations from adults who have never married or are in their first marriage. We drop one observation for which we cannot determine whether the respondent was previously married. These restrictions allow us to answer the question of how a first marriage affects wages, relative to observations prior to the marriage.

A fixed-effects model requires that each respondent contribute at least two years of wage data, so we drop 265 men who do not meet this requirement. This yields a final sample size of 5,549 men observed an average of 11.4 times each over the course of the study, for a total of 63,243 person-year observations.

Wages. The dependent variable is the log of the respondent's hourly wage in the current job. Hourly wages capture the financial rewards that individuals receive for each hour of their labor, and therefore most unequivocally capture labor market inequalities. The log of wages is also the typical outcome used in studies investigating the association between family status and wages (Budig and England 2001; Chun and Lee 2001; Cohen 2002; Fuller 2008; Glauber 2007; Glauber 2008; Gray 1997; Killewald and Gough 2013; Loh 1996), and our consistency with this prior work allows our results to be read in context with the existing tradition. We use the Bureau of Labor Statistics Consumer Price Index to adjust to 2010 dollars, and we recode extreme values to the 1st and 99th percentiles to reduce the effect of outliers.

Marriage. A dummy variable indicates whether the respondent is currently in a first marriage. The reference category is those who have never married. Current marital status is determined based on the respondent's report in the current survey wave. When not available, we use information on the beginning and end dates of the first marriage from the respondent's marital history.

Cohabitation. Cohabitation is measured with a dummy variable set to one if the individual is currently never-married but reports a partner in the household roster collected at the time of the survey.

Control variables

Potential experience. To adjust for age differences between married and unmarried individuals, we control for a continuous measure of potential experience, which we define as the respondent's age minus the age at which he entered the labor market. Actual experience is discussed in the next section as a mediating variable. Following Light and Ureta (1995), we

define entry into the labor market to occur on the first interview date when the respondent reports being employed, does not report full-time enrollment in school, and does not report full-time school enrollment in the next survey year in which that respondent is interviewed.[1]

Since the wage returns to age vary with education (Heckman, Lochner, and Todd 2003), we allow potential experience to interact with the respondent's education level. We measure education with four categories: no high school graduation, a high school degree but no postsecondary education, some college, and four years or more of college.[2] We also allow potential work experience to interact with the respondent's percentile on the Armed Forces Qualifying Test (AFQT), to permit the possibility of heterogeneity by academic achievement or cognitive ability in the returns to age.[3] By including education as a control variable, we assume that education is unaffected by marriage. It is possible that marriage causes some people to go

[1] Light and Ureta (1995) required that the respondent did not return to school for 18 months. To apply this definition to our dataset, we required that the respondent stay out of school through the next completed interview, which was usually in 1-2 years.

[2] For respondents with missing education data, we impute education to be the most recent level of education reported within the past three years. If unavailable, we impute education from earlier years, for respondents who are at least 25 years old. For these respondents, we assume education is likely to be stable. For respondents who did not provide valid data in the past three years and were under 25 in the most recent survey with valid education data, we create a dummy variable to indicate that the respondent is missing education data.

[3] Alternative models using the AFQT quartile or a linear spline for AFQT scores by quartile do not change the results.

back to school for more training, but we consider education exogenous, similar to prior research (Gray 1997; Hersch and Stratton 2000).

Parenthood. We measure parenthood with a count of the number of biological children of the respondent living in the household at the time of the survey. Although fertility is certainly affected by marital status, we wish to focus on the effects of marriage itself on men's wages, independent of the fatherhood wage premium (Glauber 2008; Killewald 2013).[4]

Year. We include year indicators in the model to account for the possibility that some years were better economically than others.

Work Experience

Marriage might affect men's wages by changing the amount of time they spend working. To test this mechanism, we include a flexible measure of work experience. Each of our measures of labor market experience, employment gaps, and job mobility are based on experiences subsequent to labor force entry.

Full-time work experience. Total work experience to date is defined as the number of hours the respondent has worked to date in all jobs since entering the labor force. We divide by 2,000 to yield the number of full-time equivalent years of work experience. Since returns to experience may decline over time, we also include a quadratic term for experience. As with potential experience, we allow education and AFQT percentile to interact with our measure of work experience, permitting heterogeneity in the returns to labor market experience

[4] We tested the possibility that the effect of children on men's wages might vary by marital status, but found no significant interactions. This may be because there are few never-married men with coresident biological children in the sample (7% of unmarried observations).

Recent work experience patterns. The effect of work experience on wages may vary with timing (Light and Ureta 1995). We expect that more recent employment will be more relevant to employers and will exert a stronger influence on wages. Therefore, we include dummy variables to indicate whether the respondent worked full time, part time, or was still in school in each of the five years preceding the interview date. Any effect of these variables will be an effect above and beyond the effect of total work experience on wages.

We calculate each variable using weekly employment arrays. When respondents are missing data on hours worked in any period of up to 20 weeks, the moving average is imputed for these weeks. If more than 20 weeks are missing in a relevant period, we consider that work history observation to be missing (4.3% of observations).

Current work hours. Marriage may increase the likelihood that a man will work full-time. Therefore, we also include a measure of whether the respondent works at least 35 hours per week in the current job.

Employment History

In addition to generalized work experience, marriage might influence men's tendencies to stay with employers or to change jobs frequently.

Current job tenure. Workers with long tenures may gain firm-specific capital that translates into higher pay (Becker 1962). We measure current job tenure with a quadratic for weeks with the current employer.

Ultimate job tenure. Workers also earn higher wages if there is a good match between the employee and the job (Jovanovic 1979). Workers who stay in their jobs a long time are the same workers who had a good job match from the beginning, so those with long job tenure are a positively-selected group. Ignoring the quality of the worker-job match will results in upwardly

biased estimates of the causal effect of tenure on wages (Abraham and Farber 1987). To separate the effect of seniority from the effect of job match, we include the ultimate duration of the job as a proxy for job match. If the job has not yet finished in the final survey round, we impute the expected duration.[5]

Types of job separations. Different types of job transitions have different effects on later labor market outcomes (Fuller 2008). We use employment history data to determine the number of times the respondent has been laid off, been fired or discharged, left work for family reasons, or left for other reasons. Following Fuller (2008), a layoff is defined to be any time the respondent reports that he was laid off, left work because of a plant or office closing, ended work in a seasonal or temporary job, or ended a job training program. A discharge is defined as any time the respondent reports being discharged or fired. A family quit is defined as any time the respondent quits work to care for children, a spouse, or a parent, or leaves a job because a spouse or other family member changed jobs.

Any history of leaving work to care for family or being fired is likely to reduce wages. To account for this, we include dummy variables indicating whether the respondent has ever left work for each of these reasons.

A history of job mobility – either from layoffs or other quits – might also affect wages. However, this effect may only matter relative to the number of job changes for similar other employees. In other words, while being fired is never normative, job quits may be normative up

[5] We estimate a Weibull proportional hazards model to predict the end of a job with the other covariates we use in the wage models. We use the coefficients from this model to predict the ultimate duration of any jobs that have not yet ended as of the last interview, following Abraham and Farber (1987). Details are available upon request.

to a certain point. For instance, an employer might not be surprised if a high school dropout was laid off from several low-paying jobs in the past two years. The same level of employment instability for a college graduate might be read more suspiciously. Likewise, for older workers we would expect a larger number of prior job changes.

In order to better measure how employers may interpret job mobility in the context of the potential employee's life stage and the pool of applicants for the same or similar jobs, we model how the individual's prior job mobility compares to other sample members with similar demographic characteristics. We estimate a Poisson regression of the individual's cumulative number of layoffs to date, using the education dummy variables and a quadratic for potential experience as predictors, as well as the interaction. The residuals from this model are recorded as the relative number of layoffs for this individual compared to broadly similar peers. We use the same method to derive the relative number of other quits. Results from all models are available in Table A1 of the appendix.

For all types of job changes, we acknowledge that more recent experiences may have a larger effect than cumulative experiences. Therefore, we additionally include indicator variables for whether in the last two years the respondent was discharged, was laid off, quit for family reasons, or quit for other reasons.

Employment gaps. Using the weekly employment arrays, we define an employment gap as at least eight consecutive weeks in which the respondent was not employed and reported being either unemployed or out of the labor force in at least one of these weeks. Following previous work (Fuller 2008), we do not count shorter gaps in order to avoid including temporary gaps during planned job shifts,. Like the other work experience variables, we only count gaps if they happen after the respondent leaves school. Since periods of unemployment might be different

from periods out of the labor force, we separate gaps into these two subsets. When a gap involves both time unemployed and time out of the labor force, we record it as a period of unemployment. We include controls for the cumulative number of spells of unemployment and the cumulative number of spells out of the labor force the respondent has reported up to the week of the interview, again relative to similar peers (see Table A1). Since more recent gaps might have stronger effects on wages than older gaps, we also control for the number of spells of unemployment and the number of spells out of the labor force in the two years prior to the interview.

Job Traits

It is possible that marriage causes men to shift into jobs that offer higher pay. To account for this possibility, we estimate the average annual earnings for individuals in each occupation and industry group using the Census 1970 1% sample and 1980-2000 5% samples, and American Community Survey (ACS) 5-year data for 2007-2011 (Ruggles, Alexander, Genadek, Goeken, Schroeder, and Sobek 2010). The Integrated Public Use Microdata Series (IPUMS) database harmonizes occupation and industry codes to follow the 1990 classification system, so we use this classification to identify occupation and industry groups. Adjusting for inflation, we estimate the average wage and salary income of IPUMS respondents in each occupation and industry category in each survey wave. We limit the IPUMS sample to men ages 30-40 in order to capture earnings after most men have settled into consistent employment and net out life-cycle effects.

Following the IPUMS crosswalks, we match these values to the 1970 and 2000 occupation and industry codes in the NLSY79data. This process allows us to consider the mediating role of moves to more lucrative occupations and industries in the male marriage premium. For years between the census rounds, we fill in the average occupation and industry

earnings with the moving average of the surrounding years, treating the 2007-2011 ACS data as representative of 2009 and 2010.

Wife's Labor Supply

We measure the moderating effect of the wife's labor supply on the marriage premium by dividing married men into three categories: those with a spouse who is not employed, those with a spouse who works part-time, and those with a spouse who works full-time.

Models

We estimate person fixed-effects models, following previous research on wage changes associated with family transitions (Budig and England 2001; Fuller 2008; Glauber 2007; Glauber 2008; Killewald and Gough 2013; Lundberg and Rose 2000). The models take advantage of the panel data to control for any unobserved, time-invariant individual traits that may affect wages and also be correlated with selection into marriage. For each variable we include a dummy variable coded to one if the respondent is missing data.

We first estimate fixed-effects models for effect of marriage on some of our hypothesized mediators of the marriage wage premium: full-time experience to date, full-time experience in the previous year, tenure with current employer, number of unemployment gaps, average occupation income, and average industry income.

Having established the first-stage relationship between marriage and the mediating variables, we then examine the relationship between marriage and wages. The Baseline model is a fixed-effects model controlling only for the exogenous variables. This model estimates the total effect of marriage on men's wages, without conditioning on mediating variables. The next three models add the three blocks of mediating variables – work experience, employment history, and

job traits – one at a time.[6] By investigating how much of the marriage premium is explained by these endogenous controls, these models investigate the process by which marriage translates into higher wages.

We also consider whether each of these mediating processes appears to explain the larger wage premium for men married to wives with lower labor supply, repeating the same set of models described above but allowing the effect of marriage to be moderated by the wife's labor supply.

Finally, we demonstrate the cumulative power of the mediating variables to explain the male marriage premium. We compare our results to those from models that include a more conventional set of mediating variables, such as cumulative employment experience and tenure with the current employer.

Results

Table 1 provides weighted descriptive statistics for the sample by marital status. The sample consists of 30,151 observations when men are married and 33,092 observations prior to marriage. The average wage in 2010 dollars while married is $22.79, compared to $15.56 when

[6] Marriage also might influence wages by influencing other non-work characteristics. For instance, marriage might improve men's health, which could in turn promote productivity. We estimate a model conditioning on whether the respondent is in school part-time, region of residence, urban residence, and whether health limits the type of work the respondent can do. Inclusion of these variables does not substantially influence the marriage premium, so we do not include them in the main models. Results with these variables included are available in the appendix, Table A2.

unmarried. Human capital, employment history, and job traits all favor married men: they are more likely to hold college degrees, have longer tenure in the current job, hold jobs that ultimately last longer, are more likely to work full-time, have fewer prior periods of unemployment, and tend to work in occupations and industries with higher average pay. All of these factors may contribute to the positive association between marriage and wages. Specialization may also influence the marriage premium; among married observations, the respondent's spouse does not work in 23% and works only part time in an additional 21%.

Effect of Marriage on Wage-Enhancing Traits

The descriptive statistics suggest that marriage might influence men's human capital. However, marriage is also associated with other factors that may influence human capital. In particular, respondents are older when they are married; this is by design since we exclude those whose first marriage has ended. In Table 2, we show the results from fixed-effects models predicting several of our mediating variables, controlling for potential experience and its interactions with education and AFQT score, as well as the survey year. Column 1 shows that, net of controls, marriage is associated with about 0.35 years more full-time experience *($p <$* .001). Fatherhood is associated with an increase in work experience of 0.25 years per child *($p <$* .001). An interesting result is that cohabitation is actually associated with lower levels of work experience than living singly *($p <$* .01) once other exogenous variables are controlled. This suggests that marriage and cohabitation may be conceptually distinct relational statuses in terms of associated work behaviors.

We next use fixed-effects logistic regression to predict whether a respondent worked full-time (at least 2,000 hours) in the 52 weeks preceding the interview date. Similar to the results for cumulative work experience, marriage increases the odds of full-time employment in the

previous year by a factor of 1.60 *(p* < .001). Contrary to its negative effect on cumulative experience, cohabitation increases the odds of full-time employment in the previous year *(p* < .001). Given that cohabitations are shorter-lived, they may affect only recent work hours, in contrast to the cumulative effect of longer-term marriages on total work experience. Fatherhood is not associated with increased odds of recent full-time employment, perhaps because many men becoming fathers are already working full-time, especially since most men in our sample are married when they become fathers (Percheski and Wildeman 2008). Overall, the two work experience models suggest that marriage influences labor market experience and employment hours in ways likely to be wage-enhancing.

The third column shows the results of fixed-effects models regressing years of tenure on the exogenous variables and family structure. Both marriage and fatherhood are positively and statistically significantly associated with men's tenure in the current job, each associated with around 3 additional months of tenure (0.28 and 0.20 years, respectively). In Column 4, the results are shown of a fixed-effects Poisson regression predicting cumulative unemployment gaps. Again, both marriage and fatherhood are statistically significantly associated with reduced job mobility. The two employment history models indicate that marriage is associated with a tendency to remain attached to the labor force and to remain with the same employer over time. Therefore, we expect that one mechanism by which marriage affects wages is by changing men's patterns of job change and tenure.

The final two columns in Table 2 predict the average income in a respondent's occupation and industry.[7] Men tend to work in more lucrative jobs when they are married; the annual earnings in both a man's occupation and his industry are predicted to be about $1,000 greater if he is married. Neither cohabitation nor fatherhood is associated with statistically significant changes in occupational earnings. Cohabitation is associated with smaller but statistically significant increases in average industry earnings, but fatherhood is associated with slightly lower industry pay. Differing job traits are thus another process by which marriage might translate to higher wages.

Explaining the Marriage Premium

In Table 3, we estimate the overall marriage premium and the extent to which the marriage premium works through the processes suggested above. To estimate the total effect of marriage on wages, in the Baseline model we regress wages on marriage, cohabitation status, and parenthood, controlling for exogenous factors. We find an overall male marriage premium of 7.9% ($p < .001$). The rest of the models in Table 3 independently add groups of endogenous variables to test whether they can account for part of this baseline marriage premium.

The Work Experience model adds to the Baseline model the measures of total full-time work experience, dummies for employment status in each of the last five years, and current full-time status. Adjusting for these factors reduces the marriage premium to 5.4% ($p < .001$). This means that 32% of the male marriage premium can be explained by married men's greater labor market experience and attachment to full-time employment.

[7] We also estimated models predicting the log of occupation average income and the log of industry average income. The fit of the non-transformed models was better than that of the log models, so we report the non-transformed models here.

The Employment History model adds the measures of nonemployment spells, job tenure, and reasons for job separation to the Baseline model. These controls reduce the marriage premium to 6.2% ($p < .001$), a decline of 22% from the baseline level.

The Job Traits model in the final column of Table 3 conditions on job traits (average pay in the respondent's occupation and industry) in addition to the variables in the Baseline model. These variables explain only 13% of the total marriage premium, leaving a residual premium of 6.9%. While our measures of job traits are as detailed as the census coding system allows, more detailed research might attribute a greater portion of the marriage premium to between-job differences in pay.

Though the primary focus of this article is on the marriage premium, Table 3 also presents the effects of cohabitation and fatherhood on wages in each model. The cohabitation premium is smaller than the marriage premium in all models, and it, too, is most explained by the work experience variables. This suggests that changes in labor market experience and employment hours are a process by which cohabitation leads to higher wages. Fatherhood has similar effects across all models of about 1.2% per child. Job changes and tenure seem to be the most important process behind the fatherhood premium; conditioning on these variables reduces the fatherhood premium to 0.8%.

The models above provide supporting evidence for the claim that job behaviors mediate a substantial portion of the male marriage premium. Previous literature has focused on specialization as a cause of the marriage premium; a husband can earn more if he focuses on employment while his wife takes care of the home. If this is the case, we might expect that changes in employment experience would explain the larger marriage premium for men married to wives with lower labor supply. To test this theory, we separate married men into three groups:

those whose wives are not employed, those whose wives work fewer than 35 hours per week, and those whose wives work full-time. We investigate how the wages of each of these groups vary from the wages of the unmarried observations, and we look at how the effects vary with the inclusion of each set of endogenous variables.

Results are presented in Table 4. The models are identical to those presented in Table 3, with the exception of the added moderating effect of the wife's labor supply. In the Baseline model, marriage is associated with a wage premium of 6.9% ($p < .001$) for men whose wives are employed full-time. Married men with a spouse who works part-time receive an additional premium of 2.5% ($p < .001$), and men with a spouse who does not work receive a premium of 3.4% relative to those with a spouse who works full time ($p < .001$). These findings are consistent with the predictions of specialization; a husband benefits more from marriage if his spouse does not work.

The models in the next three columns of Table 4 test how the moderating effect of the wife's employment status changes when we condition on each set of mediating variables. As before, the biggest change in the marriage premium occurs when we condition on work experience. The marriage premium for men married to wives who are employed full-time falls from 6.9% in the Baseline model to 4.3% in the Work Experience model. If the effect of specialization operates via work experience, we would expect the interaction terms between marriage and spouse's employment to decline as well in this model. However, the interaction terms remain roughly constant across all four models. Though the effect of marriage on wages operates partially via work history, there is no evidence that men with wives who spend less time in paid labor benefit disproportionately from this effect.

The previous models tested the relative importance of various processes by which marriage affects wages. In Table 5, we consider how much of the overall marriage premium is explained by these processes combined. The Baseline model is the same as was presented in Table 3; it captures the total effect of marriage on wages. In the next column, we show results from a conventional model. This model is similar to those used in previous studies on the relationship between family status and wages; it conditions on a quadratic for full-time experience to date, current full-time status, and a quadratic for tenure. Together, these factors explain about 15% of the male marriage premium. The full model in the third column adds the more detailed work experience, employment history, and job trait variables we used in this article and thus captures the amount of the marriage premium explained by all of the processes we considered above. This model reduces the residual marriage premium to 4.2%, explaining 47% of the total marriage premium.

Conclusion

For men, marriage is associated with increases in work experience, more favorable employment history, and moves to more lucrative occupations and industries. Together, these processes explain about half of the total marriage premium. By incorporating detailed measures of these processes, we are able to explain a substantially larger share of the premium than with standard human capital measures such as total work experience to date and job tenure. While work experience, employment history, and job traits each contribute to the marriage premium, we find the largest role for work experience, which explains about one third of the male marriage premium. In other words, changes in work hours play a comparable role in generating wage

gains for married as compared to unmarried men as they do explaining the motherhood penalty compared to childless women (Budig and England 2001; Killewald and Gough 2013).

Given the important mediating role of employment hours, it is tempting to conclude that specialization explains the marriage premium. Yet we find that married men benefit about equally from increased labor supply, regardless of the labor market status of their wife. Thus, the results are more consistent with marriage inducing an across-the-board increase in work hours, regardless of any specialization within households.

The results presented here are preliminary. Over the next few months, we propose to do additional work to assess the robustness of our results, particularly to concerns that selection into marriage occurs on the basis of time-varying traits correlated with wages (Dougherty 2006; Loughran and Zissimopoulos 2009). Thus, we will test for anticipatory effects that indicate men are increasing work hours, changing jobs, or increasing employment stability prior to marriage. Selection into employment may also bias our results, which focus only on employed men. Marriage may change selectivity into employment, and selection may occur on the basis of the magnitude of the marriage premium. In future models we will explore the sensitivity of our results to various methods attempting to account for this selectivity.

We also intend to do further work to decompose the associations documented here, to determine which particular aspects of work experience appear to be most responsible for the marriage premium. Lastly, we propose to incorporate other measures of job traits, including both occupational factors, such as percent female, and individual traits, such as working at a large employer or being covered by a collective bargaining agreement.

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Table 1. Descriptive statistics of sample, by marital status

	Unmarried	Married
Hourly rate of pay	$15.56	$22.79
Cohabiting	0.11	-
Number of children	0.07	1.21
Age	27.21	33.26
Potential experience (years)	8.15	13.86
Education		
Less than high school	0.22	0.15
Exactly high school	0.42	0.40
Some college	0.18	0.17
4+ years of college	0.18	0.28
Full-time experience (years)	6.40	13.28
Full-time employee	0.88	0.97
Tenure (years)	2.55	5.84
Ultimate job duration (years)	7.88	13.11
Job changes		
Cumulative unemp. gaps	1.88	1.44
Unemp. gaps (past 2 years)	0.33	0.13
Cumulative OOLF gaps	0.19	0.23
OOLF gaps (past 2 years)	0.04	0.03
Ever fired	0.27	0.20
Ever quit for family	0.04	0.05
Cumulative layoffs	2.41	2.44
Laid off in past 2 years	0.28	0.14
Cumulative other quits	4.10	4.63
Quit (other) in past 2 years	0.84	0.63
Occupation average income	$31,458.43	$42,565.29
Industry average income	$33,037.57	$38,425.13
Spouse's employment hours		
Spouse does not work	-	0.23
Spouse works part time	-	0.21
Spouse works full time	-	0.54
N	33,092	30,151

Note: Observations are weighted using custom longitudinal sample weights to be representative of the national population within the age range of the cohort.

Table 2. Fixed-effects models predicting mediating variables

	Work Experience		Employment History		Job Traits	
	Full-time experience	Logistic model predicting full-time employment in past year	Tenure	Poisson model predicting unemployment gaps	Occupation average income	Industry average income
Married	0.35***	1.60***	0.28**	-0.03**	1,019.72***	1,260.92***
	(0.06)	(0.06)	(0.09)	(0.01)	(279.87)	(197.47)
Cohabiting	-0.21**	1.29***	-0.02	0.02	87.16	478.52*
	(0.06)	(0.06)	(0.09)	(0.01)	(292.69)	(234.04)
Number of children	0.25***	0.97	0.20***	-0.02***	188.94	-231.64*
	(0.03)	(0.02)	(0.05)	(0.00)	(145.77)	(97.62)
Adj. R-squared	0.9515	-	0.5923	-	0.6013	0.5275
N	60,547	55,645	62,412	45,395	59,409	61,059

Note: All models are person fixed-effects models. Models include controls for education, quadratic for potential experience, interactions between potential experience and education, interactions between potential experience and AFQT score, and the survey year. For the logistic models, reported values are odds ratios. Each model excludes those missing data on the dependent variable. The logistic models also exclude respondents with the same outcome in every observation, and the Poisson model predicting unemployment gaps excludes those who never experience an unemployment gap. Those who worked at least 2,000 hours in the past year are defined to have been employed full-time in the past year. An unemployment gap is a period of at least 8 consecutive weeks not employed in which the respondent is unemployed (not out of the labor force) at least one of those weeks. Occupation and industry average incomes are measured in 2010 dollars.

Table 3. Fixed-effects regression predicting men's log hourly wage

	Baseline	Work Experience	Employment History	Job Traits
Married	0.079***	0.054***	0.062***	0.069***
	(0.007)	(0.007)	(0.007)	(0.007)
Cohabiting	0.041***	0.031***	0.041***	0.039***
	(0.009)	(0.009)	(0.009)	(0.009)
Number of children	0.012**	0.012**	0.008*	0.012***
	(0.004)	(0.004)	(0.004)	(0.004)
Adj. R-squared	0.6350	0.6463	0.6499	0.6509
N	63,243	63,243	63,243	63,243

Note: All models include controls for education, potential experience, interactions between potential experience and education, interactions between potential experience and AFQT score, and the survey year.
Work experience: Quadratic for full-time equivalent work experience, dummy variables indicating whether the respondent was employed full-time, employed part-time, or still in full-time school each of the past 5 years, and dummy variable indicating whether the respondent currently works at least 35 hours per week.
Employment history: Cumulative periods of unemployment (relative), periods of unemployment in the past 2 years (relative), cumulative periods out of the labor force (relative), periods out of the labor force in the past 2 years (relative), dummy indicating whether the respondent was ever fired, dummy indicating whether the respondent ever quit for family reasons, cumulative layoffs (relative), dummy indicating whether the respondent was laid off in the past 2 years, cumulative quits for other reasons (relative), dummy indicating whether the respondent quit for another reason in the past 2 years, quadratic for tenure with the current employer, and quadratic for the ultimate duration of the job.
Job traits: Average income in the respondent's occupation and industry (from Census data).
Full results are available in the appendix, Table A2.

Table 4. Fixed-effects regression predicting men's log hourly wage, testing specialization

	Baseline	Work Experience	Employment History	Job Traits
Married	0.069***	0.043***	0.053***	0.061***
	(0.008)	(0.007)	(0.007)	(0.007)
Married x spouse works part-time	0.025***	0.026**	0.021**	0.021**
	(0.007)	(0.007)	(0.007)	(0.007)
Married x spouse is not employed	0.034***	0.037***	0.032***	0.029***
	(0.007)	(0.007)	(0.007)	(0.007)
Cohabiting	0.042***	0.032***	0.042***	0.040***
	(0.009)	(0.009)	(0.009)	(0.009)
Number of children	0.009*	0.009*	0.005	0.010**
	(0.004)	(0.004)	(0.004)	(0.004)
Adj. R-squared	0.6352	0.6466	0.6500	0.6510
N	63,243	63,243	63,243	63,243

Note: Reference category is unmarried men. All models include controls for education, potential experience, interactions between potential experience and education, interactions between potential experience and AFQT score, and the survey year. Work experience, employment history, and job traits variables are defined as described in Table 3.

Table 5. Fixed-effects regression predicting men's log hourly wage

	Baseline	Conventional	Full
Married	0.079***	0.067***	0.042***
	(0.007)	(0.007)	(0.007)
Cohabiting	0.041***	0.041***	0.033***
	(0.009)	(0.009)	(0.008)
Number of children	0.012**	0.006	0.010**
	(0.004)	(0.004)	(0.003)
Adj. R-squared	0.6350	0.6445	0.6677
N	63,243	63,243	63,243

Note: The Baseline model is the same as presented in Table 3. The Conventional model adds quadratic for full-time experience interacted with education and AFQT score, quadratic for tenure, full-time employment, and part-time student status. The full model includes all of the previous variables as well as the mediating work experience, employment history, and job traits variables from Tables 3 and 4.

Table A1. Poisson regressions for relative work history variables

	Layoffs	Other quits	Unemployment gaps	Unemployment gaps in the past 2 years	Gaps out of the labor force	Gaps out of the labor force in the past 2 years
Education						
Less than HS	0.16**	0.08*	0.59***	0.46***	0.12	-0.09
	(0.05)	(0.04)	(0.05)	(0.06)	(0.17)	(0.19)
Some college	0.32***	0.59***	-0.35***	-0.54***	-0.14	-0.50*
	(0.06)	(0.04)	(0.07)	(0.08)	(0.20)	(0.23)
College	0.79***	0.93***	-0.81***	-1.04***	0.21	-0.04
	(0.05)	(0.04)	(0.10)	(0.09)	(0.19)	(0.21)
Potential exp.	0.11***	0.11***	0.16***	-0.05***	0.16***	-0.03
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.02)
x less than HS	0.00	-0.00	-0.02*	0.01	0.02	0.08*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)
x some college	-0.04***	-0.04***	0.01	0.02	0.03	0.10*
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.04)
x college	-0.06***	-0.06***	-0.04*	-0.05**	-0.00	-0.02
	(0.01)	(0.00)	(0.02)	(0.02)	(0.02)	(0.04)
Potential exp. squared	-0.00***	-0.00***	-0.00***	-0.00	-0.00*	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
x less than HS	0.00	0.00	0.00†	-0.00†	-0.00	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

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Table A1. *(continued from previous page)*

	Layoffs	Other quits	Unemployment gaps	Unemployment gaps in the past 2 years	Gaps out of the labor force	Gaps out of the labor force in the past 2 years
x some college	0.00**	0.00***	-0.00	-0.00	-0.00	-0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
x college	0.00***	0.00***	0.00*	0.00**	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
N	63,243	63,243	63,243	63,243	63,243	63,243

Table A2. Fixed-effects regression predicting men's log hourly wage

	Baseline	Non-work mediating variables
Married	0.079***	0.078***
	(0.007)	(0.007)
Cohabiting	0.041***	0.039***
	(0.009)	(0.009)
Number of children	0.012**	0.012**
	(0.004)	(0.004)
Part-time student	-	-0.07***
		(0.01)
Urban residence	-	0.03***
		(0.01)
North Central	-	-0.10***
		(0.03)
South	-	-0.09***
		(0.02)
West	-	-0.02
		(0.03)
Health limits work	-	-0.04***
		(0.01)
Adj. R-squared	0.6350	0.6362
N	63,243	63,243

Note: The Baseline model is the same as presented in Table 3, and the model with the non-work mediating variables also includes all controls from the Baseline model.

Table A3. Fixed-effects regression predicting men's log hourly wage

	Baseline	Work experience	Employment history	Job traits
Married	0.079***	0.054***	0.062***	0.069***
	(0.007)	(0.007)	(0.007)	(0.007)
Cohabiting	0.041***	0.031***	0.041***	0.039***
	(0.009)	(0.009)	(0.009)	(0.009)
Number of children	0.012**	0.012**	0.008*	0.012***
	(0.004)	(0.004)	(0.004)	(0.004)
Education				
Less than high school	0.02	0.01	-0.02	0.02
	(0.03)	(0.03)	(0.03)	(0.03)
Some college	-0.01	0.02	0.03	-0.01
	(0.03)	(0.02)	(0.02)	(0.02)
College	0.06 †	0.10	0.12**	0.04
	(0.04)	(0.04)	(0.04)	(0.04)
Potential experience	0.05***	0.03*	0.05***	0.04**
	(0.01)	(0.01)	(0.01)	(0.01)
x AFQT	0.00	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)
x less than HS	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
x some college	0.01*	-0.00	0.01*	0.01*
	(0.00)	(0.01)	(0.00)	(0.00)
x college	0.01**	-0.01)	0.02***	0.01**
	(0.00)	(0.01)	(0.00)	(0.00)
Potential exp. squared	-0.00***	-0.00	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)
x AFQT	-0.00***	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)
x less than HS	0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)

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Table A3. *(continued from previous page)*

	Baseline	Work experience	Employment history	Job traits
x some college	-0.00 †	-0.00	-0.00*	-0.00†
	(0.00)	(0.00)	(0.00)	(0.00)
x college	-0.00**	0.00	-0.00***	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)
Work experience	-	0.01*	-	-
		(0.00)		
x AFQT	-	-0.00	-	-
		(0.00)		
x less than HS	-	0.01	-	-
		(0.00)		
x some college	-	0.00	-	-
		(0.00)		
x college	-	0.01*	-	-
		(0.00)		
Work experience squared	-	-0.00	-	-
		(0.00)		
x AFQT	-	0.00	-	-
		(0.00)		
x less than HS	-	-0.00	-	-
		(0.00)		
x some college	-	-0.00	-	-
		(0.00)		
x college	-	-0.00**	-	-
		(0.00)		
Full-time	-	0.01	-	-
		(0.01)		
Exp. dummy variables				
FT last year	-	0.08***	-	-
		(0.01)		

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Table A3. *(continued from previous page)*

	Baseline	Work experience	Employment history	Job traits
FT on [1,2) years past	-	0.08*** (0.01)	-	-
FT on [2,3) years past	-	0.07*** (0.01)	-	-
FT on [3,4) years past	-	0.03*** (0.01)	-	-
FT on [4,5) years past	-	0.05*** (0.01)	-	-
PT last year	-	0.04*** (0.01)	-	-
PT on [1,2) years past	-	0.04*** (0.01)	-	-
PT on [2,3) years past	-	0.02** (0.01)	-	-
PT on [3,4) years past	-	0.01 (0.01)	-	-
PT on [4,5) years past	-	0.02* (0.01)	-	-
Still in school 1 year past	-	-0.02† (0.01)	-	-
Still in school 2 years past	-	-0.00 (0.01)	-	-
Still in school 3 years past	-	-0.02† (0.01)	-	-
Still in school 4 years past	-	0.01 (0.01)	-	-
Still in school 5 years past	-	-0.00 (0.01)	-	-
Tenure	-	-	0.02*** (0.00)	-

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Table A3. *(continued from previous page)*

	Baseline	Work experience	Employment history	Job traits
Tenure squared	-	-	-0.00*** (0.00)	-
Ultimate job duration	-	-	0.01*** (0.00)	-
Ultimate job duration squared	-	-	-0.00*** (0.00)	-
Cumulative relative unemployment gaps	-	-	-0.03*** (0.00)	-
Rel. unemp. gaps in past 2 years	-	-	-0.02*** (0.00)	-
Cum. rel. gaps out of the labor force	-	-	-0.02* (0.01)	-
Rel. gaps OLF in past 2 years	-	-	-0.02 (0.01)	-
Ever fired	-	-	-0.05*** (0.01)	-
Ever quit for family reasons	-	-	-0.05* (0.02)	-
Cumulative relative layoffs	-	-	0.00 (0.00)	-
Ever laid off in the past 2 years	-	-	-0.01* (0.01)	-
Cum. rel. quits for other reasons	-	-	0.01*** (0.00)	-
Ever quit for other reason, past 2 years	-	-	-0.02** (0.01)	-

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Table A3. *(continued from previous page)*

	Baseline	Work experience	Employment history	Job traits
Occupation average income ($10,000)	-	-	-	0.03*** (0.00)
Industry average income ($10,000)	-	-	-	0.06*** (0.00)
Adj. R-squared	0.6350	0.6463	0.6499	0.6509
N	63,243	63,243	63,243	63,243

Note: All models also include a series of dummy variables to control for the year of the observation.