

**The Dynamic Effect of Disability on Marriage:
Evidence from the Social Security Disability Insurance Program**

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Abstract: This study examines the dynamic effect of disability on marriage. The data come from the New Beneficiary Survey, designed to characterize new beneficiaries of the Social Security Disability Insurance Program. Using an event-study model, the study finds a negative effect of disability on marriage, particularly at the time of onset. The effect is evident among males and females, but only at younger ages, and is due mainly to marriage formation, rather than dissolution. The results highlight the importance of marriage selection in the oft-cited relationship between marriage and better health.

Keywords: Marriage selection, marriage formation, marriage dissolution, disability

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I. Introduction

Marriage is associated with better social, economic, and health outcomes, but the mechanism for these associations remains a debate.¹ Some argue that the associations arise from marriage selection, whereby people with better outcomes are more likely to marry (Goldman 1993; Stevenson and Wolfers 2007). This would occur if the gains from marriage increase with socioeconomic status or health (Becker 1973). Others argue that the associations arise from marriage protection, whereby marriage has a causal impact on well-being (Umberson 1992; Waite and Gallagher 2000). For example, marriage may alter health behaviors, expand social networks, or increase efficiency of household production.

To contribute to the debate, this study examines the dynamic effect of disability on marriage. According to Meyer and Mok (2013), approximately one-third of male heads-of-household will be at least temporarily disabled before reaching age 50. Additionally, disabled males are significantly less likely to be married than non-disabled males. The empirical question is whether marital status changes at the time of disability onset. Such effects would highlight the importance of marriage selection, rather than marriage protection, in the oft-cited relationship between marriage and better health.

The effect of disability on marriage is estimated using an event-study model.² The advantage of the model is its flexibility, allowing the effect of disability on marriage to vary relative to the date of disability onset. The model requires either longitudinal or retrospective data on disability and marriage. For the treatment group, the study utilizes the New Beneficiary

¹ For example, married couples have higher wages (Korenman and Neumark 1991; Schoeni 1995), lower rates of chronic conditions (Verbrugge 1979), and lower rates of mortality (Hu and Goldman 1990; Umberson 1992).

² The model is similar to a model by Jacobson, LaLonde, and Sullivan (1993), who estimate the dynamic effect of job displacement on earnings.

Survey (NBS), designed to characterize new beneficiaries of the Social Security Administration. The treatment group is composed of new beneficiaries to the Social Security Disability Insurance (SSDI) program who became disabled in 1980. The survey was conducted shortly thereafter, in late 1982. For the comparison group, the study utilizes the Survey of Income and Program Participation (SIPP). The SIPP provides a representative sample of the non-institutionalized, US population. The data come specifically from topical module two of the 1986 SIPP, which reports retrospective information on marriage formation and dissolution. Using these data, the effect of disability on marriage is measured by the changes in marriage before and after disability onset among the treatment group, relative to the changes in marriage among the comparison group, controlling for observable differences between the two groups. The identification assumption is that marriage would have changed similarly among the treatment and comparison groups in the absence of disability onset.

According to the results, disability onset is associated with a precipitous decrease in marriage. This finding is evident both graphically from raw data and quantitatively using the event-study model. In the year before disability onset, male beneficiaries were -2.52 percentage points less likely to be married compared to SIPP males. In just two years after disability onset, marriage decreased by an additional 4.23 percentage points. Similarly, in the year before disability onset, female beneficiaries were 13.54 percentage points less likely to be married compared to SIPP females. In just two years after disability onset, marriage decreased by an additional 6.39 percentage points.

To determine the mechanism for the effects, the event-study model is estimated with marriage formation and marriage dissolution separately as outcome variables. According to economic theory, disability onset could decrease marriage formation, increase marriage

dissolution, or both (Becker 1973; Becker Landes and Michael 1977). This study finds that the effect of disability on marriage is due mainly to a decrease in marriage formation.

This study also examines whether the effect of disability on marriage varies by age and educational attainment. According to economic theory, the effect of disability on marriage depends on its effect on expected marital quality. This effect is likely greater among the young and better educated (Singleton 2012). One reason is that the average incidence of disability onset is lower among the young and better educated, so disability onset is less anticipated and thus comes as a greater shock. Another reason is that health and education are presumably complements in household production, which directly affects expected marital quality. This study finds that the effect of disability on marriage is greatest among the young, but the effect does not differ significantly by educational attainment.

The results contribute to an existing literature on the dynamic effect of disability on divorce.³ Some studies are motivated by the theoretical predictions of Becker, Landes, and Michael (1977), who argue that adverse shocks to earnings capacity should precipitate divorce. Other studies are motivated by the consequences of disability onset and their implications for optimal social insurance. Charles and Stephens (2002) and Meyer and Mok (2013) focus on males using the Panel Survey of Income Dynamics. The former study finds no effect of disability on divorce, but the latter study finds a positive effect on divorce, particularly for more severe disabilities. Using the Health and Retirement Survey, Karraker and Latham (2015) focus on males and females at older ages. They find a positive effect of disability on divorce, but only among older females. And, using the Survey of Income and Program Participation, Singleton

³ To identify the causal impact of health on marriage, several studies focus on childhood health on adult marital outcomes. Studies include Byrne et. Al (1989), Gortmaker et al. (1993), and Smith and Smith (2010).

(2012) examines marriage formation and dissolution among males and females. He finds no effect of disability on marriage formation, but finds a positive effect on marriage dissolution, particularly among younger, better educated males. In contrast to these studies, this study finds that disability onset decreases marriage among both males and females, due mainly to a decrease in marriage formation.

An important difference between this study and related studies is the data. In related studies, the data come from representative surveys of the general population, and disability status is self-reported either longitudinally or retrospectively. A common feature of survey data is that they contain relatively few spells of severe disability, limiting statistical identification. The data used in this study, however, are composed entirely of disability spells that limit, if not prevent, the ability to work. Another feature of survey data is that disability is self-reported, which raises a concern that individuals justify marriage dissolution by claiming a disability.⁴ Disabilities in the NBS, however, are corroborated by the Social Security Administration, which uses a five-step sequential evaluation process to evaluate disabilities and award benefits. A limitation of the NBS is that it excludes individuals who experience a disability, but do not apply for, or do not qualify for, SSDI benefits. This includes individuals with less severe disabilities or insufficient work histories.⁵ However, according to recent studies, there is a substantial overlap between individuals in survey data who self-report the onset of a severe disability and individuals who subsequently apply for and receive SSDI benefits (Meyer and Mok, 2013; Singleton 2014).⁶

⁴ Bound (1991) discusses the endogeneity of self-reported health in models of retirement behavior.

⁵ To qualify medically for SSDI benefits, an applicant must be unable to engage in substantial gainful activity due to a medically identifiable impairment. To be insured for benefits, an applicant must have worked at least five of the previous ten years prior to disability onset.

⁶ For example, using the Survey of Income and Program and Participation matched to administrative data on SSDI benefits, Singleton (2014) finds that the onset of a work-preventing

II. Background

A. Theory of Marriage Formation and Dissolution

A conceptual framework for health and marriage can be derived from economic theory. A theory of marriage, developed by Becker (1973), emphasizes the role of production within the household. According to the model, households combine time and market goods to produce a single commodity. The commodity is transferable between individuals within the same household, but utility is derived from one's own consumption. An individual enters a marriage only if own consumption increases, so two persons will form a marriage only if joint production increases.

In the marriage market, individuals select partners to maximize own consumption, subject to market equilibrium constraints. In equilibrium, not only do individuals maximize own consumption, but the market maximizes production over all marriages. This equilibrium condition has two implications for the sorting of individuals into marriage. First, marriage should be more common among individuals who possess qualities that increase household production, for whom the value of marriage is greatest. As Becker (1973) states, this may explain why more attractive and intelligent persons are more likely to marry. Second, couples should sort positively into marriage based on attributes that are complementary in household production. This could account for the positive sorting of couples with respect to intelligence, educational attainment, and health.

The theory of marriage provides a framework for a theory of marriage dissolution. The theory, developed by Becker, Landes, and Michael (1977), has two implications for divorce.

disability is associated with a precipitous increase in SSDI receipt, with the rate of receipt plateauing at 65 percent approximately four years after disability onset.

First, if search costs are high, individuals are willing to form lower quality marriages. Lower-quality marriages face a greater risk of divorce than higher-quality marriages. Second, marriage is dynamic, so the decision to marry is based on expectations of marital quality. However, shocks to marital quality may occur throughout a marriage, and these shocks – for better or for worse – may precipitate divorce.

B. Role of Health in Marriage

The theories of marriage formation and dissolution have direct implications for the role of health. According to the theory of marriage formation (Becker 1973), individuals marry for the production of household commodities. Thus, the effect of health on marriage is determined by its effect on household productivity. If health increases productivity, then the prevalence of marriage should be greater among the healthy. Furthermore, if health between spouses is complementary in household production, then couples should sort positively in regards to health. Health shocks among singles may decrease the propensity to marry, as individuals may recalibrate their search in the marriage market or may no longer find marriage optimal.

According to the theory of marriage dissolution (Becker, Landes, and Michael 1977), divorce occurs when marital quality deviates sufficiently from prior expectations. The effect of health shocks on expected marital quality depends on two factors (Singleton 2012). The first is the incidence of the health shock, which reflects the extent to which shocks are anticipated. Unanticipated shocks should have a larger effect on expected marital quality than anticipated shocks. The second factor is the direct effect of health shocks on marital quality. This effect is not necessarily determined by the severity of the disability, but rather by the extent to which the marriage depends on health. Whether a health shock precipitates divorce ultimately depends on

whether expected marital quality falls below the expected value of outside alternatives. This is more likely to occur among lower-quality marriages.

Two additional factors are considered regarding the role of health in marriage. First, the effect of health on marriage may differ by whose health is affected. According to Becker (1973), couples may sort negatively with respect to market wage, allowing the higher wage spouse to specialize in market work and the lower wage spouse to specialize in household production. Thus, the effect of health on marriage depends on whether health affects household productivity, market productivity, or both, and on whether the affected spouse specializes in market work or household production.⁷ For these reasons, “work-preventing” disabilities, as reported in survey data, may have a greater impact on divorce among primary earners.

Second, while health may be an important input in household production, it may also be an output. For example, household production may include healthier meals, which in turn improves health. According to the theory of marriage, the healthy are not only more likely to marry, but are more likely to marry others who are healthy, assuming health is complementary in household production. If so, then healthy couples are the most efficient at producing better health, which further increases marital quality. Thus, when faced with adversity, marriages with higher initial quality and longer tenure may be the most robust, due in part to household production over the course of the marriage (Lillard and Waite 1995).

Based on the considerations above, the effect of health shocks on divorce is likely greater among the young and better educated (Singleton 2012). This is likely for several reasons. First, the incidence of health shocks is lower, so disabilities are less anticipated. Second, the effect of

⁷ Additionally, males may find caring for a disabled spouse more stressful than do females (England 2005).

health on marital quality is likely greater, since marriage is presumably premised on future work. Third, marital quality may be lower among shorter tenured marriages, as longer tenured marriages benefit from household production over the course of a marriage. These predictions guide the empirical analysis below.

III. Methodology

The empirical objective is to measure the dynamic effect of disability on marriage. The study uses an event-study model similar to Charles and Stephens (2002), Meyer and Mok (2013), and Singleton (2012). The advantage of the model is its flexibility, allowing the effect of disability on marriage to vary relative to the date of disability onset. Estimation of the model requires longitudinal or retrospective data on disability and marriage. The treatment group is composed of individuals who become disabled during the analysis period. The empirical question is whether marital status changes before and after disability onset among the treatment group, relative to changes in marital status among an appropriate comparison group.

In regression form, the event-study model is as follows:

$$Y_{it} = \alpha + \beta D_i + \sum_{\tau \neq -1} \gamma^\tau D_{it}^\tau + \theta X_{it} + \varepsilon_{it}.$$

The outcome variable Y_{it} is a measure of marital status, where the subscript i indexes individuals and the subscript t indexes discrete periods. The variable D_i is a disability group indicator, equaling one if individual i belongs to the treatment group and zero otherwise. The variables D_{it}^τ are disability-by-period indicators, where the superscript τ indexes periods relative to disability onset. The index is normalized so that period 0 corresponds to the period of disability onset, and the left-out period is -1, the calendar year before disability onset. As such, the coefficient β measures the difference in Y_{it} between the treatment and comparison groups in period -1, and the

coefficient γ^τ measures the differential change in Y_{it} between the treatment and comparison group from period -1 to period τ .

The model includes a vector of control variables X_{it} . The vector accounts for observable differences between the treatment and comparison groups that directly affect Y_{it} . According to related studies, disability onset is more common among the aged, non-white, and less educated (Meyer and Mok 2013; Singleton 2012). Thus, the vector X_{it} includes age, age squared, an indicator for race (white, with non-white as the left-out group), and indicators for educational attainment (less than a high school diploma and any education beyond high school, with high school diploma only as the left-out group). Because the age profile of marriage may differ by race and educational attainment, the model includes interactions of age and age squared with the indicators of race and educational attainment. The residual terms ε_{it} are heteroskedastic and thus estimated using the Huber-White sandwich estimator.

The dynamic effect of disability on marriage is characterized by the coefficients γ^τ . These coefficients measure the differential change in marriage from period -1 to period τ among the treatment group, relative to trends in marriage among the comparison group, controlling for observable differences between the two groups. The identification assumption is that marriage would have trended similarly among the two groups in the absence of disability onset, controlling for observable differences between the two groups. If the identification assumption were true, the coefficients γ^τ would be zero. Thus, non-zero estimates of γ^τ are attributed to disability onset.

According to economic theory, the dynamic effect of disability on marriage may vary by sex, age, and socioeconomic status. Such heterogeneous effects are addressed in two ways. First, to account for heterogeneous effects by sex, the model is estimated separately for males

and females. This also allows a comparison of this study to related studies that focus on males only (Charles and Stephens 2002; Meyer and Mok 2013). Second, to account for heterogeneous effects by age and socioeconomic status, the model includes multiple sets of disability-by-period indicators. These sets are mutually exclusive and collectively exhaustive of the treatment group. For example, to account for heterogeneous effects by age, the model includes two sets of indicators, one for ages 20 to 44, and another for ages 45 to 59.

The model is estimated for three marital outcomes: marriage, marriage formation, and marriage dissolution. Marriage is a measure of stock, whereas formation and dissolution are measures of flow. The precise definitions of the variables are described below.

IV. Data

A. Treatment Group: New Beneficiary Survey

Data for the treatment group come from the New Beneficiary Survey (NBS). The NBS was commissioned by the Social Security Administration (SSA) to characterize new beneficiaries to SSA programs. To derive the sample, individuals were randomly selected from the Master Beneficiary Record (MBR), which contains an administrative record of all retired and disabled worker beneficiaries. To characterize new beneficiaries, the sampling frame was limited to individuals who received their first benefit payment from mid-1980 to mid-1981, and the survey was conducted shortly thereafter, from October to December of 1982. The NBS is composed of both survey data and SSA administrative data, merged at the individual level.

Using the NBS, the treatment group is defined as disabled worker beneficiaries newly entitled to Social Security Disability Insurance (SSDI) benefits. By design, disabled worker beneficiaries received their first DI payment from July 1980 to June 1981. The date of disability

onset is reported in the MBR, which is the date reported by the beneficiary at the time of benefit application. The dates of marriage are reported in the survey. For the most recent marriage, the survey reports the year of marriage, separation, divorce, and widowhood. Information for previous marriages are not generally available.

Initially, the NBS initially contains 5,198 DI beneficiaries: 3,594 male beneficiaries and 1,605 female beneficiaries. Three restrictions are imposed to derive the treatment group. First, the sample is restricted to ages 20 to 59, eliminating 34.7 percent of the sample (34.45 percent of are aged 60 and above). Second, the sample is restricted to individuals whose disability onset occurred in 1980, eliminating 4.8 percent of the remaining sample. Third, the sample is restricted to observations with complete information on marriage formation and dissolution, eliminating 2.0 percent of the remaining sample. After these restrictions, the treatment group contains 3,155 beneficiaries: 2,162 male beneficiaries and 993 female beneficiaries.

B. Comparison Group: Survey of Income and Program Participation

Data for the comparison group come from the Survey of Income and Program Participation (SIPP). The SIPP provides a representative sample of the non-institutionalized, US population. The data come specifically from topical module two of the 1986 SIPP. This module provides retrospective data on marriage formation and dissolution for up to three marriages, including the year of marriage, separation, divorce, and widowhood. Rather than distinguishing between the disabled and non-disabled, or between SSDI beneficiaries and non-beneficiaries, the comparison group is defined as the entire non-institutionalized population, regardless of health or beneficiary status.

To derive the comparison group, the sample is restricted to ages 24 to 63 in 1986. These ages are comparable to those of the treatment group, which was restricted to ages 20 to 59 in

1982. The comparison group contains 11,431 respondents: 5,432 male respondents and 5,999 female respondents.

C. Outcome Variables

Using retrospective data on marriage, the empirical analysis focuses on three binary outcomes: married, marriage formation, and marriage dissolution. The first variable, married, indicates marital status at the end of a calendar year. The variable equals one if married and zero otherwise. The second variable, marriage formation, indicates whether a marriage forms during the calendar year, conditional on not being married at the end of the preceding calendar year. The third variable, marriage dissolution, indicates whether a marriage ends during the calendar year, conditional on being married during the calendar year.⁸ Because formation and dissolution are conditioned on being single and married, respectively, the means of these variables can be interpreted as hazard rates. Importantly, all three variables are constructed from data from the most recent marriage only, as data on additional marriages are not available in the NBS. All three variables are constructed annually from 1977 to 1982.

D. Summary Statistics

Table 1 reports summary statistics by survey and sex. Because the NBS and the SIPP were conducted in different years, ages in the SIPP are adjusted to calendar year 1982, the year of the NBS.⁹ As shown, new beneficiaries in the NBS are approximately 11 years older than individuals in the SIPP. The age distribution in the NBS is concentrated towards older ages, with 69.0 percent of the sample aged 45 to 59. Also, in comparison to the SIPP, new SSDI

⁸ Similar to Singleton (2012), the variable of marriage dissolution reflects separation or divorce, but not widowhood.

⁹ The age adjustment for the SIPP sample is simply age reported in the topical module, minus four.

beneficiaries are less likely to be white, educated, and married. The difference in marriage is considerably larger among females, due to higher rates of separation, divorce, and widowhood among female beneficiaries.

VI. Results

A. Results by Sex

Before estimating the event-study model, the dynamics of marriage and disability onset are first examined graphically. The dynamics for males are illustrated in panel A of **Figure 1**, and the dynamics for females are illustrated in panel A of **Figure 2**. Each figure plots the rate of marriage separately by survey and period. By construction, period zero corresponds to calendar year 1980, the year of disability onset among new SSDI beneficiaries.

Among new beneficiaries, disability onset is associated with a decrease in marriage. This is evident by comparing the trends in marriage before and after disability onset. Among male beneficiaries, marriage trended slightly upwards before disability onset, but plateaued at approximately 70.5 percent after disability onset. Among female beneficiaries, marriage trended downward before disability onset, but trended downward more after disability onset. Thus, within the NBS samples, disability onset is associated with a decrease in marriage.

As expected, there is no association between period zero and marriage among observations in the SIPP. For both males and females, the trends in marriage were relatively constant throughout the analysis period.

Nonetheless, figures illustrate substantial differences in the levels and trends of marriage between the SIPP and the NBS. In **Figure 1**, males from the SIPP are substantially less likely to be married than males from the NBS, though both groups exhibit a similar trend in marriage before

period zero. In **Figure 2**, females from the SIPP are more likely to be married than females from the NBS, and the trend is positive in the SIPP, but negative in the NBS. These differences are due, in part, to differences in observable characteristics reported in **Table 1**. For example, beneficiaries in the NBS are older than individuals in the SIPP, and the likelihood of marriage is greater at older ages.

To control for differences in observable characteristics, the dynamics of marriage are estimated using the event-study model. Described above, the model controls for age, race, and educational attainment, as well as interactions of age with race and education.

The results for males are presented in the first column of **Table 2**, and the results for females are presented in the first column of **Table 3**. The table reveals four notable patterns. First, beneficiaries in the NBS are less likely to be married than individuals in the SIPP, even after controlling for observable characteristics. This is evident by the negative estimate of β for the disability indicator D . Second, marriage trended similarly among both groups before period zero. This is evident by the small and statistically insignificant estimates of γ^τ before period zero. Third, disability onset is associated with immediate, albeit insignificant, decrease in marriage. This is evident by larger, negative estimates of γ^τ in period 0, the year of disability onset. Finally, the negative association between disability and marriage increases with each year after disability onset. By period two, the estimates of γ^2 reached -4.23 percentage points among male beneficiaries and -6.39 percentage points among female beneficiaries, statistically significant at the one percent level.

Although the estimates of γ^2 are similar for males and females, the magnitude of estimates relative to the baseline difference in marriage, represented by the parameter β , is considerably larger among male beneficiaries. For male beneficiaries, the estimate of γ^2 is 1.68

times larger than the baseline difference of -2.52; for female beneficiaries, this ratio is just 0.47. Thus, disability onset is responsible for much of the post-disability difference in marriage between the NBS and SIPP, but especially among males.

B. Marriage Formation and Dissolution

According to the results, disability onset is associated with a decrease in marriage. An important question is whether this is due to formation, dissolution, or both. To address this question, the event-study model is estimated with marriage formation and dissolution separately as outcome variables. The models are the same as the one for marriage, except that the model for marriage dissolution includes marriage tenure (in years) and marriage tenure squared, as measures of marriage quality. Because formation and dissolution are defined only for the non-married and married, respectively, the sample sizes necessarily decrease.

The results for males are presented in **Table 2**, and the results for females are presented in **Table 3**. Column two presents results from the model of marriage formation, and column three presents results from the model of marriage dissolution. As shown, the negative association between disability onset and marriage is due mainly to marriage formation. For both males and females, disability onset is associated with an immediate decrease in marriage formation, and this decrease persists in periods one and two. In period zero, the estimate of γ^0 is -4.87 percentage points and -3.04 percentage points for males and females, respectively. By period two, the estimates of γ^2 are -3.68 and -6.31 for males and females, respectively. For marriage dissolution, the estimates of γ^τ after disability onset are positive, but the estimates are relatively small and statistically insignificant.

C. Results by Age

According to economic theory, the effect of disability on divorce is likely greater among the young. To examine this prediction graphically, **Figures 2** and **3** plot dynamics of marriage separately by two age categories. The sample in panel B is restricted to ages 20 to 44, and the sample in panel C is restricted to ages 45 to 59. These figures reveal two notable patterns. First, within categories of sex and age, the trends in marriage before period zero appear similar among the treatment and comparison groups. This provides graphical support for the identification assumption required for the event-study model: that the trends in marriage would have been similar among both groups in the absence of disability onset. Second, the negative association between disability onset and marriage is most apparent at younger ages. Among younger male beneficiaries, marriage trended upward before disability onset, then plateaued at approximately 49 percent after disability onset. Among younger female beneficiaries, marriage trended upward before disability onset, then downward after disability onset, peaking at approximately 48 percent.

To estimate marriage by age using the event-study model, the models include two sets of disability-by-period indicators, one for ages 20 to 44, and another for ages 45 to 59. The results for males are presented in **Table 4**, and the results for females are presented in **Table 5**. Each table contains three panels, which correspond to the three outcome variables, and each panel contains two columns, which correspond to the two age categories.

The tables reveal several findings. First, the negative association between disability onset and marriage is due mainly to younger beneficiaries. Among younger beneficiaries, the estimates of γ^τ are small and statistically insignificant before disability onset, but are larger, negative, and statistically significant after disability onset. By period two, the estimates of γ^2 are -9.00 and -13.14 for younger males and females, respectively, statistically significant at the

one percent level. In contrast to younger beneficiaries, there is no statistically significant relationship between the estimates of γ^τ and disability onset among older beneficiaries. Among older female beneficiaries, some estimates of γ^τ are larger and negative after disability onset, but no estimate is statistically significant.

Second, the decrease in marriage among younger beneficiaries is due mainly to marriage formation. In the first column of panel two, the estimates of γ^τ are small and statistically insignificant before disability onset, but are larger, negative, and statistically significant after disability onset. Disability onset is also associated with an increase in marriage dissolution among younger male beneficiaries, but not among younger female beneficiaries.

Third, there is no robust relationship between disability onset and the three outcomes variables among older beneficiaries. The results reveal a slight decrease in marriage following disability onset among older female beneficiaries, due mainly to a decrease in marriage formation, but the decrease in marriage is not statistically insignificant.

D. Results by Educational Attainment

According to economic theory, the effect of disability on divorce is likely greater among the young and better educated. To test this theoretical prediction, the event-study models include four sets of disability-by-period indicators, which vary by age and educational attainment. The age categories are from 20 to 44 and from 45 to 59, and the educational attainment categories are less than a high school diploma and at least a high school diploma.

The results for males are presented in **Table 6**, and the results for females are presented in **Table 7**. Here, each panel contains four columns, which vary by age and educational attainment.

Among younger beneficiaries, disability onset is associated with a decrease in marriage regardless of educational attainment. Among younger male beneficiaries, the estimates of γ^2 are -9.16 and -8.90 percentage points among the low and high educated categories, respectively. Among younger female beneficiaries, the corresponding estimates are -13.73 and -12.95 percentage points, respectively. These decreases are due mainly to marriage formation, rather than marriage dissolution, as shown in panels two and three. The one exception is younger, lower educated females, who exhibit a statistically significant increase in marriage dissolution, particularly by period two.

It is important note that, among younger, lower educated males, all the estimates of the estimates of γ^2 are positive and statistically significant. However, this does not reflect a systematic relationship between disability onset and marriage dissolution, but rather a particularly low rate of marriage dissolution in the year just before disability onset, the left-out year.

In contrast to younger beneficiaries, there is no robust association between disability onset and marriage among older beneficiaries. The one exception is older, lower educated females. Among this group, the estimate of γ^2 reaches -5.60 percentage points, due mainly to a decrease in marriage formation, but the decrease in marriage is not statistically significant.

E. Health Conditions

According to the results, disability onset is associated with a decrease in marriage, particularly among younger beneficiaries. Although this finding is consistent with predictions of economic theory, described above, the finding may also reflect differences in the types of disabilities experienced by younger and older beneficiaries. An important consideration is

whether the dynamic effects of disability on marriage by age are robust to controls for types of disabilities.

Unfortunately, the NBS does not report the precise cause of disability onset. Instead, survey participants report whether they have various health conditions posed by the survey, and survey participants may respond affirmatively to any and all conditions.

Information and summary statistics of these data are reported **Table 8**. The table lists the 14 health conditions contained in the survey. These conditions are then aggregated to eight health categories based on body system. The table reports the response rate for each health category separately by sex and age.

In general, older beneficiaries are more likely to report specific health conditions than younger beneficiaries. The two exceptions are the nervous system, which includes multiple sclerosis and cerebral palsy, and mental illness, defined as a nervous or emotional problem. The different rates of these conditions by age are statistically significant among both males and females.

The empirical question is whether the dynamic effects of disability on marriage by age are robust to controls for types of disabilities. To address this question, the event-study model includes eight sets of disability-by-period indicators, correspond to the conditions listed in **Table 8**. With these additional control variables, the event-study model measures the dynamic association between disability onset and marriage separately for younger and older beneficiaries, controlling dynamically for health conditions that differ between the two age groups.

The results for males are presented in **Table 9**, and the results for females are presented in **Table 10**. As shown, the results are very similar to **Tables 4 and 5**, with some minor differences. For older males, marriage decreased slightly after disability onset in **Table 4**, but

these decreases are somewhat larger in **Table 9**. In particular, the estimate of γ^2 is -1.51 in **Table 4** and -3.73 in **Table 9**. However, both estimates are statistically insignificant.

VII. Discussion and Conclusion

This study examines the dynamic effect of disability on marriage, marriage formation, and marriage dissolution. The study yields several findings. First, disability onset is associated with a precipitous decrease in marriage among both males and females. Second, the decrease in marriage is due mainly to a marriage formation, rather than marriage dissolution. Finally, the effect of disability onset marriage is larger at younger ages, but does not differ significantly by educational attainment.

These results from this study have several implications. First, the results corroborate theoretical predictions regarding health and marriage. According to economic theory, adverse shocks to income should decrease marriage formation (Becker 1973) and increase marriage dissolution (Becker, Landes, and Michael 1977). Moreover, this effect is likely greater among the young and better educated (Singleton 2012). The results from this study are consistent with the theoretical predictions by age, though not by educational attainment.

Second, the results contribute to the general understanding of marriage as insurance. Indeed, marriage is often characterized as insurance against shocks to income and health (Stevenson and Wolfers 2007). The results from this study suggest that disability onset is not associated with the dissolution of marriage, but is negatively associated with the formation of marriage.

Finally, the results highlight the importance of marriage selection, rather than marriage protection, in the oft-cited relationship between marriage and better health. According to this

study, disabled individuals are less likely to be married than the general population. However, much of this difference is attributable to the decline in marriage at the time of disability onset, rather than to differences in marriage before disability onset. Two years after disability onset, younger disabled males were 13.81 percentage points less likely to be married relative to the general population, but 65.2 percent of this difference occurred post-disability.¹⁰ The respective figures for younger disabled females are 23.76 percentage points and 55.3 percent.

These findings have important policy implications. For example, since 2001, the US government spent approximately \$800 million on the Healthy Marriage Initiative, a public program designed to promote marriage and discourage divorce. However, it remains unclear whether such programs are effective at increasing the quantity or quality of marriages (Hawkins, Amato, and Kinghorn 2013). This study finds that health is an important determinant of marriage formation. Thus, if marriage is prescribed policy goal, then improving population health may be an effective policy. Such policies include expanding access to public health insurance and providing workplace accommodations for people with disabilities.

¹⁰ The post-disability difference in marriage is estimated as $\hat{\beta} + \hat{\gamma}^2$. The share of the post-disability difference in marriage attributable to changes in marriage post disability is estimated as $\hat{\gamma}^2 / (\hat{\beta} + \hat{\gamma}^2)$.

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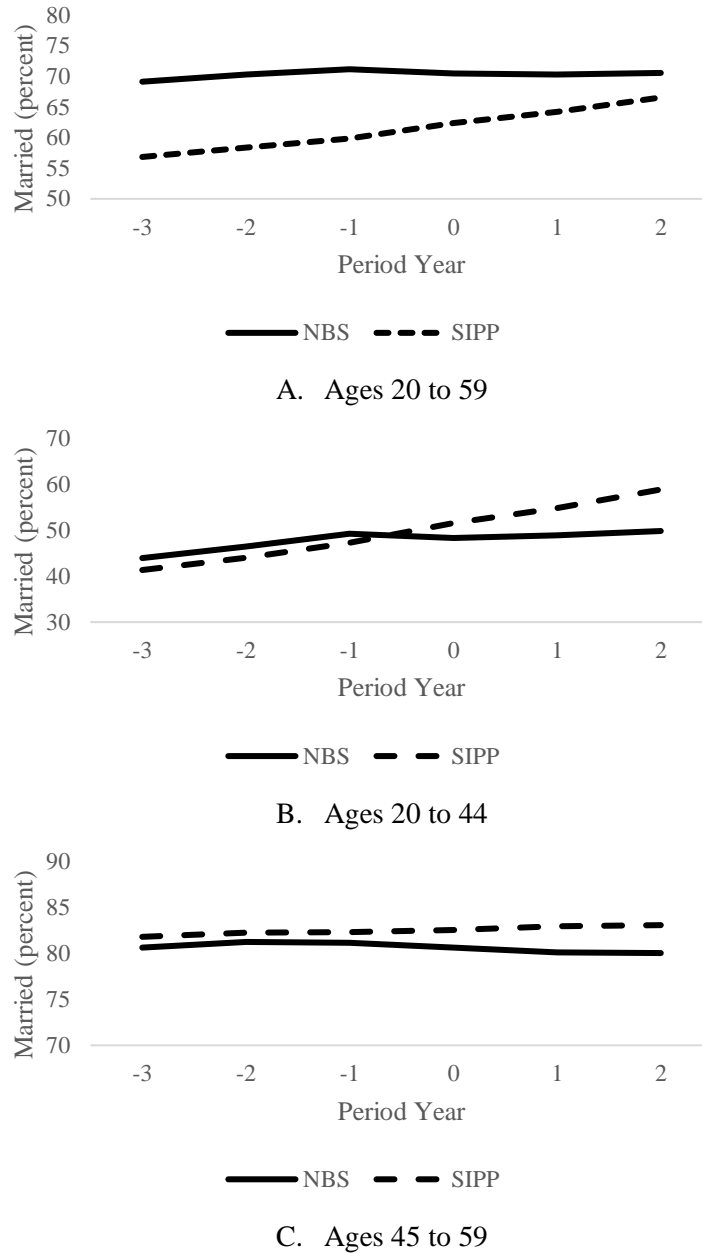


Figure 1
Percent Married by Period Year: Males Ages 20 to 59

The data come from the New Beneficiary Survey and the Survey of Income and Program Participation. The New Beneficiary Survey is limited to new beneficiaries of the Social Security Disability Insurance Program. By construction, new beneficiaries became disabled in period 0, which corresponds to calendar year 1980.

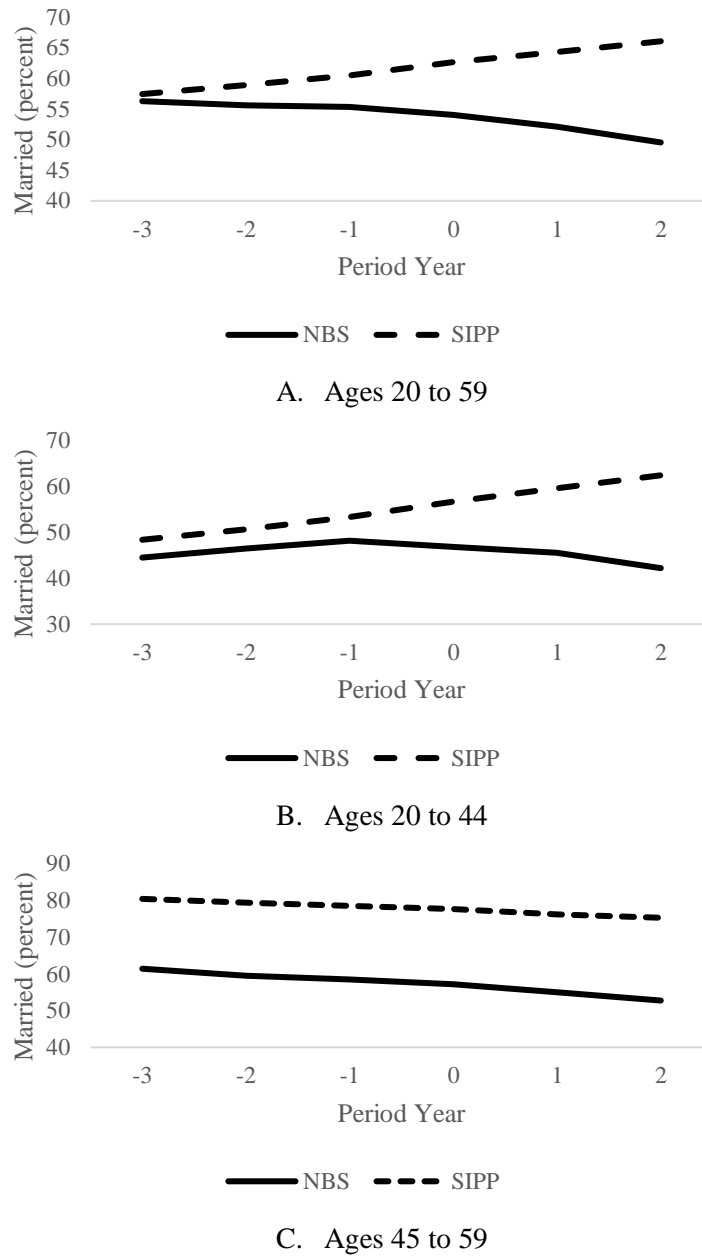


Figure 2
Percent Married by Period Year: Females Ages 20 to 59

The data come from the New Beneficiary Survey and the Survey of Income and Program Participation. The New Beneficiary Survey is limited to new beneficiaries of the Social Security Disability Insurance Program. By construction, new beneficiaries became disabled in period 0, which corresponds to calendar year 1980.

Table 1
Summary Statistics by Sex and Survey

Survey	Males		Females	
	NBS	SIPP	NBS	SIPP
Age	47.69 (0.23)	36.40 (0.15)	47.91 (0.34)	36.95 (0.15)
White	80.90 (0.85)	89.67 (0.41)	76.94 (1.34)	87.32 (0.43)
Less than HS	53.65 (1.07)	19.50 (0.54)	45.02 (1.58)	19.22 (0.51)
HS only	30.30 (0.99)	42.36 (0.67)	33.53 (1.50)	48.84 (0.64)
More than HS	16.05 (0.79)	38.14 (0.66)	21.45 (1.30)	31.94 (0.60)
Married	70.58 (0.98)	72.80 (0.60)	49.55 (1.59)	69.65 (0.59)
Widowed	2.08 (0.31)	0.84 (0.12)	11.18 (1.00)	4.66 (0.27)
Separated	3.70 (0.41)	2.29 (0.20)	8.56 (0.89)	3.27 (0.23)
Divorced	9.90 (0.64)	8.30 (0.37)	18.03 (1.22)	10.61 (0.40)
Single	13.74 (0.74)	15.77 (0.49)	12.69 (1.06)	11.80 (0.42)
Observations	2,162	5,467	993	6,024

The data come from the New Beneficiary Survey and the Survey of Income and Program Participation. The New Beneficiary Survey is limited to new beneficiaries of the Social Security Disability Insurance Program. All estimates are in percent, unless otherwise noted. Standard errors are in parentheses.

Table 2

Event-Study Model of Marriage and Disability: Males Ages 20 to 59

	Marriage	Formation	Dissolution
D	-2.52*	0.82	0.78*
	(1.07)	(1.14)	(0.36)
D^{-3}	-1.10	-0.99	0.32
	(1.46)	(1.43)	(0.51)
D^{-2}	-0.23	0.60	-0.19
	(1.46)	(1.52)	(0.46)
D^0	-2.14	-4.87**	0.89
	(1.48)	(1.47)	(0.53)
D^1	-3.12*	-3.32*	0.10
	(1.49)	(1.51)	(0.51)
D^2	-4.23**	-3.68*	0.55
	(1.50)	(1.59)	(0.52)
\bar{Y}^{-2}	70.35	6.45	0.98
	(0.98)	(0.95)	(0.25)
Observations	45,774	18,281	28,749
R-Square	0.27	0.01	0.01

The estimates come from an event-study model of marital outcomes and disability onset. The treatment group is derived from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. The comparison group is derived from the Survey of Income and Program Participation. The coefficient on the variable D measures the difference in marriage between groups in period -1, the year before disability onset. The coefficients on the variables D^τ measure the differential change in marital outcomes from period -1 to τ . The \bar{Y}^{-2} represents the mean of the outcome variable two years before disability onset. The variable *married* is an indicator of marriage; the variable *formation* is an indicator of marriage formation, conditional on being non-married; the variable *dissolution* is an indicator of marriage dissolution, conditional on being married. The model includes control variables for age, race, and educational attainment. All estimates are factored by 100. Standard errors are in parentheses. * and ** indicate statistical significance at the five percent and one percent levels, respectively.

Table 3

Event-Study Model of Marriage and Disability: Females Ages 20 to 59

	Marriage	Formation	Dissolution
D	-13.54** (1.66)	1.73 (1.18)	1.73* (0.72)
D^{-3}	0.45 (2.31)	-0.18 (1.57)	-0.88 (0.90)
D^{-2}	0.04 (2.32)	0.28 (1.62)	-0.04 (1.00)
D^0	-1.76 (2.32)	-3.04* (1.53)	1.08 (1.05)
D^1	-3.65 (2.33)	-3.82** (1.46)	1.04 (1.07)
D^2	-6.39** (2.34)	-6.31** (1.39)	2.30 (1.19)
\bar{Y}^{-2}	55.59 (1.58)	4.84 (1.03)	2.76 (0.68)
Observations	42,102	17,161	26,054
R-Square	0.18	0.02	0.01

The estimates come from an event-study model of marital outcomes and disability onset. The treatment group is derived from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. The comparison group is derived from the Survey of Income and Program Participation. The coefficient on the variable D measures the difference in marriage between groups in period -1, the year before disability onset. The coefficients on the variables D^τ measure the differential change in marital outcomes from period -1 to τ . The \bar{Y}^{-2} represents the mean of the outcome variable two years before disability onset. The variable *married* is an indicator of marriage; the variable *formation* is an indicator of marriage formation, conditional on being non-married; the variable *dissolution* is an indicator of marriage dissolution, conditional on being married. The model includes control variables for age, race, and educational attainment. All estimates are factored by 100. Standard errors are in parentheses. * and ** indicate statistical significance at the five percent and one percent levels, respectively.

Table 4

Event-Study Model of Marriage and Disability by Age: Males Ages 20 to 59

Age	Married		Formation		Dissolution	
	20-44	45-59	20-44	45-59	20-44	45-59
D	-4.81** (1.83)	-0.06 (1.20)	0.61 (1.50)	2.05 (1.55)	0.64 (0.90)	0.39 (0.35)
D^{-3}	-0.36 (2.52)	-1.79 (1.63)	-1.22 (1.90)	-0.94 (1.91)	1.55 (1.42)	0.12 (0.48)
D^{-2}	-0.19 (2.54)	-0.42 (1.62)	-0.31 (1.99)	1.66 (2.10)	-0.19 (1.18)	-0.06 (0.46)
D^0	-4.37 (2.59)	-0.94 (1.64)	-5.95** (1.92)	-3.43 (1.92)	3.49 (1.54)*	0.16 (0.49)
D^1	-6.57* (2.60)	-1.19 (1.65)	-4.99* (1.95)	-1.08 (2.02)	1.02 (1.35)	-0.19 (0.49)
D^2	-9.00** (2.61)	-1.51 (1.66)	-3.87 (2.15)	-3.13 (1.95)	3.08 (1.49)*	-0.29 (0.46)
\bar{Y}^{-2}	46.46 (1.92)	81.27 (1.01)	6.32 (1.25)	6.62 (1.47)	1.86 (0.75)	0.74 (0.25)
Observations	45,774		18,281		28,749	
R-Square	0.27		0.02		0.01	

The estimates come from an event-study model of marital outcomes and disability onset. The treatment group is derived from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. The comparison group is derived from the Survey of Income and Program Participation. The coefficient on the variable D measures the difference in marriage between groups in period -1, the year before disability onset. The coefficients on the variables D^τ measure the differential change in marital outcomes from period -1 to τ . The \bar{Y}^{-2} represents the mean of the outcome variable two years before disability onset. The variable *married* is an indicator of marriage; the variable *formation* is an indicator of marriage formation, conditional on being non-married; the variable *dissolution* is an indicator of marriage dissolution, conditional on being married. The model includes control variables for age, race, and educational attainment. All estimates are factored by 100. Standard errors are in parentheses. * and ** indicate statistical significance at the five percent and one percent levels, respectively.

Table 5

Event-Study Model of Marriage and Disability by Age: Females Ages 20 to 59

Age	Married		Formation		Dissolution	
	20-44	45-59	20-44	45-59	20-44	45-59
D	-10.62** (2.81)	-14.92** (1.99)	0.92 (2.20)	2.75* (1.25)	2.98 (1.81)	1.11 (0.69)
D^{-3}	0.41 (3.96)	0.46 (2.73)	0.63 (2.98)	-0.80 (1.56)	-1.89 (2.32)	-0.45 (0.88)
D^{-2}	0.43 (3.98)	-0.13 (2.74)	-0.03 (3.01)	0.44 (1.70)	-1.79 (2.36)	0.61 (1.04)
D^0	-4.00 (3.96)	-0.78 (2.75)	-4.73 (2.81)	-2.09 (1.61)	1.77 (2.70)	0.79 (1.01)
D^1	-7.51 (3.96)	-1.96 (2.76)	-5.36* (2.72)	-2.91 (1.49)	1.81 (2.76)	0.69 (1.03)
D^2	-13.14** (3.95)	-3.44 (2.78)	-8.19** (2.59)	-5.20** (1.39)	4.81 (3.09)	1.28 (1.12)
\bar{Y}^{-2}	46.51 (2.88)	59.54 (1.87)	7.19 (2.00)	3.37 (1.11)	3.42 (1.51)	2.53 (0.76)
Observations	42,102		17,161		26,054	
R-Square	0.18		0.02		0.01	

The estimates come from an event-study model of marital outcomes and disability onset. The treatment group is derived from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. The comparison group is derived from the Survey of Income and Program Participation. The coefficient on the variable D measures the difference in marriage between groups in period -1, the year before disability onset. The coefficients on the variables D^τ measure the differential change in marital outcomes from period -1 to τ . The \bar{Y}^{-2} represents the mean of the outcome variable two years before disability onset. The variable *married* is an indicator of marriage; the variable *formation* is an indicator of marriage formation, conditional on being non-married; the variable *dissolution* is an indicator of marriage dissolution, conditional on being married. The model includes control variables for age, race, and educational attainment. All estimates are factored by 100. Standard errors are in parentheses. * and ** indicate statistical significance at the five percent and one percent levels, respectively.

Table 6

Event-Study of Model Marriage and Disability by Age and Education: Males Ages 20 to 59

Age	Married				Formation				Dissolution			
	20-44	20-44	45-59	45-59	20-44	20-44	45-59	45-59	20-44	20-44	45-59	45-59
Education	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
D	-3.17 (3.02)	-5.64* (2.24)	-0.22 (1.62)	0.24 (1.62)	0.64 (2.35)	0.57 (1.88)	1.13 (1.65)	3.49 (3.06)	-1.80** (0.32)	2.91* (1.40)	0.54 (0.47)	0.13 (0.45)
D^{-3}	-0.54 (4.14)	-0.25 (3.05)	-1.20 (2.08)	-2.61 (2.23)	-0.98 (2.98)	-1.35 (2.36)	-1.72 (1.90)	0.55 (4.10)	4.09* (1.76)	-0.25 (1.99)	0.07 (0.63)	0.21 (0.62)
D^{-2}	-1.85 (4.14)	0.83 (3.09)	-0.06 (2.07)	-0.92 (2.21)	-2.72 (2.82)	1.07 (2.58)	2.43 (2.34)	0.05 (4.04)	3.43* (1.58)	-2.97 (1.58)	-0.16 (0.59)	0.07 (0.58)
D^0	-2.92 (4.19)	-5.27 (3.18)	-0.74 (2.08)	-1.30 (2.24)	-3.10 (3.19)	-7.61** (2.26)	-2.28 (2.15)	-5.98 (3.57)	5.89** (1.98)	1.69 (2.15)	-0.55 (0.56)	1.16 (0.76)
D^1	-5.95 (4.19)	-6.95* (3.20)	-1.37 (2.09)	-1.03 (2.25)	-6.36* (2.71)	-4.20 (2.52)	-0.77 (2.22)	-1.83 (3.89)	3.72* (1.66)	-0.98 (1.88)	-0.41 (0.62)	0.11 (0.65)
D^2	-9.16* (4.20)	-8.90** (3.21)	-2.00 (2.11)	-0.92 (2.26)	-3.19 (3.27)	-4.27 (2.67)	-2.96 (2.12)	-3.62 (3.78)	7.45** (2.21)	0.03 (1.95)	-0.60 (0.58)	0.14 (0.62)
\bar{Y}^{-2}	47.10 (3.11)	46.06 (2.44)	78.91 (1.36)	84.91 (1.48)	3.62 (1.60)	7.85 (1.73)	6.15 (1.73)	7.61 (2.78)	3.17 (1.57)	1.02 (0.72)	0.84 (0.34)	0.60 (0.35)
Observations	45,774				18,281				28,749			
R-Square	0.27				0.02				0.01			

The estimates come from an event-study model of marital outcomes and disability onset. The treatment group is derived from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. The comparison group is derived from the Survey of Income and Program Participation. The coefficient on the variable D measures the difference in marriage between groups in period -1, the year before disability onset. The coefficients on the variables D^t measure the differential change in marital outcomes from period -1 to t . The \bar{Y}^{-2} represents the mean of the outcome variable two years before disability onset. The variable *married* is an indicator of marriage; the variable *formation* is an indicator of marriage formation, conditional on being non-married; the variable *dissolution* is an indicator of marriage dissolution, conditional on being married. The model includes control variables for age, race, and educational attainment. All estimates are factored by 100. Standard errors are in parentheses. * and ** indicate statistical significance at the five percent and one percent levels, respectively.

Table 7

Event-Study Model Marriage and Disability by Age and Education: Females Ages 20 to 59

Age	Married				Formation				Dissolution			
	20-44	20-44	45-59	45-59	20-44	20-44	45-59	45-59	20-44	20-44	45-59	45-59
Education	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
D	1.71 (5.77)	-13.83** (3.17)	-10.26** (2.62)	-19.06** (2.92)	3.26 (5.18)	0.48 (2.40)	2.11 (1.34)	3.55 (2.02)	-0.29 (2.44)	4.14 (2.28)	1.72 (1.04)	0.35 (0.80)
D^{-3}	0.26 (8.00)	0.43 (4.47)	3.01 (3.52)	-2.67 (4.07)	0.41 (7.10)	0.67 (3.25)	2.18 (2.00)	-3.85 (2.19)	-2.06 (2.44)	-1.73 (3.02)	-1.12 (1.25)	0.43 (1.13)
D^{-2}	-0.55 (8.15)	0.69 (4.49)	1.86 (3.53)	-2.58 (4.08)	0.73 (7.46)	-0.16 (3.26)	1.72 (1.97)	-0.88 (2.64)	2.47 (4.21)	-3.32 (2.80)	0.21 (1.47)	1.13 (1.35)
D^0	-4.79 (8.10)	-3.78 (4.46)	-1.74 (3.56)	0.39 (4.08)	-0.44 (7.48)	-5.55 (2.98)	-2.61 (1.53)	-1.44 (2.74)	7.68 (5.19)	-0.36 (3.13)	0.26 (1.41)	1.51 (1.35)
D^1	-4.48 (8.13)	-8.32 (4.44)	-4.09 (3.57)	0.64 (4.10)	2.86 (7.85)	-7.06* (2.78)	-2.56 (1.53)	-3.32 (2.41)	2.78 (4.23)	1.52 (3.41)	0.67 (1.50)	0.77 (1.26)
D^2	-13.73 (8.23)	-12.95** (4.43)	-5.60 (3.61)	-0.84 (4.12)	-5.58 (6.38)	-8.67** (2.78)	-4.10** (1.52)	-6.59** (2.06)	13.04* (6.23)	1.75 (3.50)	0.35 (1.49)	2.49 (1.63)
\bar{Y}^{-2}	59.38 (6.19)	43.04 (3.22)	62.14 (2.48)	56.31 (2.83)	7.69 (5.33)	7.09 (2.17)	2.92 (1.44)	3.85 (1.69)	5.00 (3.49)	2.83 (1.62)	2.80 (1.05)	2.17 (1.08)
Observations	41,952				16,091				27,076			
R-Square	0.18				0.02				0.01			

The estimates come from an event-study model of marital outcomes and disability onset. The treatment group is derived from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. The comparison group is derived from the Survey of Income and Program Participation. The coefficient on the variable D measures the difference in marriage between groups in period -1, the year before disability onset. The coefficients on the variables D^{τ} measure the differential change in marital outcomes from period -1 to τ . The \bar{Y}^{-2} represents the mean of the outcome variable two years before disability onset. The variable *married* is an indicator of marriage; the variable *formation* is an indicator of marriage formation, conditional on being non-married; the variable *dissolution* is an indicator of marriage dissolution, conditional on being married. The model includes control variables for age, race, and educational attainment. All estimates are factored by 100. Standard errors are in parentheses. * and ** indicate statistical significance at the five percent and one percent levels, respectively.

Table 8**Health Conditions by Sex and Age, New Beneficiary Survey**

	Males		Females	
	20-44	45-59	20-44	45-59
Sensory	31.12	45.35	35.88	42.34
(1) Blindness or eye trouble	(1.78)	(1.29)	(2.77)	(1.88)
(2) Cataracts or glaucoma				
(3) Deafness or trouble hearing				
Musculoskeletal	61.94	74.80	59.80	80.49
(4) Missing appendage	(1.87)	(1.13)	(2.83)	(1.51)
(5) Bone or muscle condition				
(6) Stiffness or deformity				
Nervous System	31.56	18.40	28.24	14.16
(7) Multiple sclerosis, cerebral palsy	(1.79)	(1.01)	(2.60)	(1.33)
(8) Other paralysis				
Lung				
(9) Asthma, emphysema	16.52	31.74	15.28	29.19
Lung: asthma, emphysema	(1.43)	(1.21)	(2.08)	(1.73)
Digestive system	29.50	37.87	30.90	41.18
(10) Gallbladder, stomach, kidney, liver	(1.75)	(1.26)	(2.67)	(1.87)
Cancer				
(11) Cancer or growth not already mentioned	5.01	7.28	6.31	11.71
Mental illness	(0.84)	(0.67)	(1.40)	(1.22)
(12) Nervous or emotional problem	38.50	36.05	42.19	38.58
	(1.87)	(1.25)	(2.85)	(1.85)
Heart	35.99	74.19	34.88	66.04
(13) Heart attack	(1.84)	(1.14)	(2.75)	(1.80)
(14) Heart problem				
Observations	678	1,484	301	692

The data come from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. All estimates are in percent, unless otherwise noted. Standard errors are in parentheses.

Table 9

Event-Study Model of Marriage and Disability by Age: Males Ages 20 to 59

Age	Married		Formation		Dissolution	
	20-44	45-59	20-44	45-59	20-44	45-59
D	-6.47** (2.49)	-2.83 (2.61)	0.72 (2.41)	2.54 (2.95)	0.93 (1.14)	0.07 (1.01)
D^{-3}	-0.00 (3.42)	-1.59 (3.64)	1.24 (3.13)	0.58 (3.52)	-0.01 (1.64)	-1.18 (1.37)
D^{-2}	-0.46 (3.45)	-1.01 (3.65)	-1.03 (3.21)	0.21 (3.91)	-0.01 (1.52)	0.64 (1.35)
D^0	-4.80 (3.53)	-2.53 (3.69)	-8.18** (3.02)	-7.86* (3.66)	3.37 (1.83)	1.03 (1.31)
D^1	-7.53* (3.54)	-4.39 (3.70)	-5.07 (3.13)	-3.20 (3.75)	1.86 (1.83)	1.70 (1.45)
D^2	-8.99* (3.57)	-3.73 (3.71)	-2.12 (3.42)	-3.18 (3.65)	2.25 (1.74)	-1.02 (1.42)
\bar{Y}^{-2}	46.46 (1.92)	81.27 (1.01)	6.32 (1.25)	6.62 (1.47)	1.86 (0.75)	0.74 (0.25)
Observations	45,774		18,281		28,749	
R-Square	0.27		0.01		0.01	

The estimates come from an event-study model of marital outcomes and disability onset. The treatment group is derived from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. The comparison group is derived from the Survey of Income and Program Participation. The coefficient on the variable D measures the difference in marriage between groups in period -1, the year before disability onset. The coefficients on the variables D^τ measure the differential change in marital outcomes from period -1 to τ . The \bar{Y}^{-2} represents the mean of the outcome variable two years before disability onset. The variable *married* is an indicator of marriage; the variable *formation* is an indicator of marriage formation, conditional on being non-married; the variable *dissolution* is an indicator of marriage dissolution, conditional on being married. The model includes control variables for age, race, and educational attainment, and dynamic controls for eight health conditions. All estimates are factored by 100. Standard errors are in parentheses. * and ** indicate statistical significance at the five percent and one percent levels, respectively.

Table 10

Event-Study Model of Marriage and Disability by Age: Females Ages 20 to 59

Age	Married		Formation		Dissolution	
	20-44	45-59	20-44	45-59	20-44	45-59
D	-10.51** (4.05)	-17.66** (4.25)	2.18 (3.28)	5.88* (2.87)	3.62 (2.56)	2.16 (2.19)
D^{-3}	-4.50 (5.60)	-5.66 (5.94)	-0.61 (4.37)	-5.92 (3.75)	-1.41 (3.21)	0.36 (2.51)
D^{-2}	-1.32 (5.68)	-2.88 (5.97)	-0.82 (4.21)	-3.70 (3.88)	-4.50 (3.31)	-2.21 (2.99)
D^0	-3.88 (5.72)	0.06 (6.01)	-7.35 (3.79)	-7.24* (3.33)	1.29 (3.42)	-0.94 (2.65)
D^1	-7.23 (5.71)	-1.41 (6.04)	-6.56 (3.82)	-6.03 (3.47)	1.24 (3.95)	0.94 (2.96)
D^2	-14.00* (5.71)	-4.83 (6.06)	-9.50* (3.75)	-8.39** (3.20)	6.16 (4.09)	3.30 (3.20)
\bar{Y}^{-2}	46.51 (2.88)	59.54 (1.87)	7.19 (2.00)	3.37 (1.11)	3.42 (1.51)	2.53 (0.76)
Observations	42,102		17,161		26,054	
R-Square	0.18		0.02		0.02	

The estimates come from an event-study model of marital outcomes and disability onset. The treatment group is derived from the New Beneficiary Survey, limited to new beneficiaries of the Social Security Disability Insurance Program. The comparison group is derived from the Survey of Income and Program Participation. The coefficient on the variable D measures the difference in marriage between groups in period -1, the year before disability onset. The coefficients on the variables D^τ measure the differential change in marital outcomes from period -1 to τ . The \bar{Y}^{-2} represents the mean of the outcome variable two years before disability onset. The variable *married* is an indicator of marriage; the variable *formation* is an indicator of marriage formation, conditional on being non-married; the variable *dissolution* is an indicator of marriage dissolution, conditional on being married. The model includes control variables for age, race, and educational attainment, and dynamic controls for eight health conditions. All estimates are factored by 100. Standard errors are in parentheses. * and ** indicate statistical significance at the five percent and one percent levels, respectively.