Marital History, Current Marital Status, and Mortality: A Two-Nation Comparison

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A range of studies across several nations have examined the association of marital status with mortality. The goal of these comparisons is to provide a comprehensive examination of the benefits of marriage for health, regardless of differences in culture and social structure. In this paper, we expand on previous analyses by broadening our measure of marital status to include both current status and recent change as well as long-term marital exposure. The comparison is based on two countries in which the marital experiences of those now in older age groups are rather different, particularly with regard to proportions ever-marrying and proportions experiencing divorce.

Numerous studies have indicated that marriage seems to be associated with clear health benefits, especially for men, with married people generally having the best health and lowest mortality, and in many studies the formerly married the worst. However, several studies have reported that at older ages never-married women have as good or better health than their married counterparts and others have found lower mortality among widows than among married women. Overall, the diverse and extensive literature on marital experience and health is thus not wholly consistent with regard to either observed associations or their interpretation and most doubt surrounds implications for health in older age groups. Some variations in results are to be expected given the wide

range of study populations, outcomes and methods used and the likelihood that effects vary to some extent by age, gender, period (or cohort) and country. Conceptual, methodological and data issues are also important. The quality of data (e.g., response rates and attrition), sample size, and adequacy of statistical controls for socioeconomic status and other covariates vary greatly across studies.

There is also a continuing debate about the mechanisms underlying associations between marital status and health. This revolves around the influences of health related selection into and out of marriage; the health promoting and protective effects of being married, and the health damaging effects of marital disruption.

There is a wide range of identified benefits of being married, for example better material resources; better nutrition and regulation of health related behaviours; and social and emotional support. These benefits of marriage might well be expected to accumulate over time and in those studies which have been able to examine duration effects, there is some evidence of this. Widowhood or divorce involves not just an end to benefits associated with being married, but also the stress of the event itself. Some researchers have suggested that these devastation effects may be more important than the protective effects of marriage in accounting for marital status differentials in health, at least in younger age groups.

RESEARCH QUESTIONS

In this study we use data from a large nationally representative record linkage study of England and Wales and a large nationally representative panel study of the US population to analyse associations between indicators of marital history as well as current marital status and subsequent mortality and health. The overall aim of the study was to

evaluate the relative contribution of recent change in marital status and marital status observed over a longer period, on health and mortality in mid- and later-life. We hypothesised that both these elements of marital history should, on the basis of theorised benefits of marriage, be associated with better health and lower mortality among those with most 'exposure' to marriage. In the case of more recent change, we expected that experience of marital dissolution would be negatively associated with health outcomes. In both cases we expected that effects would be modified by consideration of socio-economic characteristics, and for women, by fertility history, and would vary with gender and age. The key research questions we address are thus firstly, whether both marital change in the past decade and longer term 'exposure' to marriage are associated with health and mortality at older ages and, if so, which has the greater effect; secondly how far effects are modified or amplified by consideration of socio-economic characteristics. In sum, the present study adds to existing research by including both current and long-term marital status, focusing on mortality at older ages, including strong socio-economic controls, and utilizing high quality, nationally-representative data sources.

DATA AND METHODS

We use data from the ONS Longitudinal Study (ONS LS), a record linkage study of approximately 1% of the population initially based on those enumerated in the 1971 Census of England and Wales and now including linked information from subsequent censuses in 1981, 1991 and 2001, and from vital registration. Strengths of the data set include large sample size, low non-response and attrition bias (as census coverage is good and rates of linkage high); inclusion of the institutional population and information spanning several decades of sample members' lives.

US data are drawn from the first six waves of the Health and Retirement Study collected between 1992 and 2002. HRS is a panel study of the U.S. population that tracks individual change in the domains of health and physical functioning, employment, income and wealth, and family structure. The sample used here consists of the original HRS cohort born 1931-41. The first interview in 1992 occurred when women were aged 51-61 and provides measures of covariates. Respondents are then followed until 2002, and these data are used to estimate mortality. The HRS data are linked to the National Death Index (NDI) up to 2002. The 1992 survey had a high response rate of 80%.

Measures Available in the ONS LS

The outcome mortality is measured by the exact date of death. Two indicators of marital history were derived and used in the analysis. The first, termed marital score, was simply the number of times out of a possible two (1971 and 1981) or three (1971, 1981 and 1991) that the sample member was currently married. Although not a true measure of cumulated time in marriage, this indicator is quite a close approximation. For example, 82% of the men and 90% of the women included in our analysis who had a 1971-1991 marital score of 3 were in their first marriage in 1991, implying that they must have been continuously married at least since 1971. Our second measure related to experience or not of a marital transition in the decade prior to outcome. This was derived from census information at two time points and linked data on widowhood. The socio-economic indicators we use are based on occupational social class (men only), housing tenure, and household access to a car, all of which have been used extensively in British research on health and other differentials and educational qualifications.

Measures Available in the HRS

The outcome measure, death, is measured to the month and year. Marital history is measured by number of marriages, coded one, two, three, or four or more. We examined a number of overlapping measures of marital history, including percent of time married since age 21, number of marriages, and a binary indicator for number of marriages. Number of marriages captured most of the variance shared with these other measures. Current marital status is marital status measured at the beginning of the study in 1992. We also include time-varying covariates to measure end of marriages existing in 1992 (new divorce, new widowhood) and one measure of starting a new marriage. We allowed respondents to have multiple changes in marital status that were captured in these time-varying covariates. Socioeconomic status is measured by years of schooling, household assets in 1992 and household income in 1991.

Results for Men: England and Wales

Marital score 1971-1981 had a large, graded and highly significant association with male mortality risks 1991-2001 when included on its own. Adding the socio-economic indicators reduced these differentials, but significant differences remained. The group with the highest risk ratio was the stable non-married; those who were widowed 1981-1991 also had significantly raised mortality risks. Risk ratios for those experiencing divorce or marriage (both smaller groups) were not significantly different from the continuously married, but they were significantly lower than the risks for the stable non-married category. When both marital score and marital change were included, together with socio-economic indicators, marital score was not significantly associated with mortality but recent marital experience was. In this model mortality risks for the stable non-married were 31% higher than for the continuously married group, and also

significantly higher than the mortality risk for men who had experienced divorce 1981-1991. Men who had been widowed had a 15% higher risk than the reference stable married group.

Results for Men: USA

The long-term marital exposure measure, number of marriages, was significantly associated with mortality, controlling for socioeconomic status. Men with three or four marriages, compared to one, had mortality risks that were 55 to 84% higher. Men who were currently separated or divorced had higher mortality when current status was included on its own, but these effects were substantially reduced when socioeconomic status was controlled. Net of socioeconomic status and long-term marital history, men who were currently separated had mortality rates 61% higher than the married. In addition, men who had experienced widowhood since 1992 had mortality that was 64% higher than those without a marital change.

Results for Women: England and Wales

Marital score on its own was significantly associated with mortality, however effects were smaller than for men and there was no difference between those unmarried at both preceding censuses and those married at one. These effects disappeared once parity and socio-economic status were controlled. Also as for men, marital change 1981-1991 included on its own or with the socio-economic indicators was significantly associated with mortality. Compared with the consistently married, those who became divorced, experienced widowhood or got married all had higher odds of mortality 1991-2001, as did those who remained unmarried. When parity and socio-economic status were controlled, effects were reduced but still significant except for the small became married

group. In the model including marital score, marital change and covariates significantly raised risks were observed for those who had been divorced or widowed 1981-1991, but not for the stable non-married group.

Results for Women: USA

There are few statistically significant effects for women in the US data. When included alone, divorced and widowed women in 1992 had higher mortality over the subsequent ten years. However, once socioeconomic covariates were included, these effects became small and non-significant. Net of socioeconomic status and current marital status, women with three marriages had higher mortality than those with one marriage, indicating some significant effects for long-term marital history.

Conclusions

While the details vary across country, the results of the analysis are consistent. Results indicate the important role of both long-term marital exposure and recent marital experience on mortality, even after controlling for socioeconomic status. The specific pattern varies across the data sets, but the general trend is the same. This in itself is an interesting finding as it suggests that factors other than selection must play an important role in accounting for differences in mortality by marital experience, as nuptiality characteristics of the two populations considered are rather different. In the ONS data, recent experience is clearly more important than long-term exposure. In the HRS, both factors remain important when the other history measure is included among men, but only marital history remains significant among women. There are also important gender differences, with marital experience having a greater effect on men than women. Again, while the general trend is the same the details vary. In the ONS data, recent experience

remains a significant predictor of mortality for women. In the HRS, long-term exposure remains important. Further work in progress including similar comparative data for a third country (Italy) with nuptiality patterns different from those of either England and Wales or the USA will enable us to further test the hypotheses and conclusions reported here.