Historical Trends in Health Differentials by Marital Status in the United States: 1972-2003

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Abstract: Little research has attempted to explore trends of the association between marital status and health even though there are reasonable theoretical grounds for expecting changes in this association over time. I provide both empirical and theoretical evidence showing that this association changed over time in the context of rapid family changes. Based on pooled data from NHIS 1972-1981 and 1982-2003, I examine trends in health differences by marital status. During 1972-1981, health difference between the married and unmarried, especially the divorced and separated, decreased over time in that the unmarried groups showed more rapid improvement in health relative to the married. However, those convergent trends during 1972-1981 were mostly explained by changes in sociodemographic compositions. In contrast, health difference between the married and unmarried increased over 1982-2003.

The married are generally healthier than the unmarried including the never married, divorced, separated, widowed and cohabiting (Kobrin and Hendershot 1977; Umberson 1987; House, Landis and Umberson 1988; Goldman 1993; Rogers 1995; Waite 1995; Waite and Lehrer 2003). This marriage benefit might be a spurious association which results from the fact that those in better health and with more favorable health characteristics might be more likely to get and stay married (Goldman 1993). However, many studies on marital status and health have suggested that marriage can improve health through increasing available resources and encouraging individuals to adopt more disciplined health behaviors (Waite 1995; Waite and Lehrer 2003). While a significant body of work establishes the link between marital status and health, previous studies do not consider trends in this association. Have the differences in health between the married and others increased, decreased or remained stable across historical time? Do these trends differ across social groups (e.g. race, gender, socioeconomic status and birth cohorts)? Little empirical research has been done to address these questions although grounds do exist for expecting change in the relationship between marital status and health over time in the context of rapid family change in the United States. In this paper I use repeated cross-sectional data of National Health Interview Survey from 1972 to 2003 to examine trend of health differentials by marital status over the recent three decades in the United States.

Recent research has focused on identifying and understanding the key reasons for the association between marital status and health. Two leading explanations are the marriage protection position and marriage selection argument. In this paper, I first review these two arguments in turn and then predict the possible trends based on those theoretical grounds in the context of rapid family change. Then using National Health Interview Survey from 1972 to 2003,

I empirically test my hypotheses about the trends of health differentials by marital status. At the end of the paper I summarize the results and discuss the possible explanations for the results.

MARRIAGE PROTECTION AND SELECTION ARGUMENTS

The marriage selection perspective indicates that people with specific characteristics, such as fewer risky health behaviors and better health status, are more likely to be selected into marriage, while the marriage protection perspective posits that marriage improves health through changes in social integration, economic resources, and behaviors that affect health outcomes. In other words, the protection argument suggests that the association between marital status and health is a causal relationship while the selection argument suggests that it is a spurious association.

Protection Argument

Both married men and women are in better health than the unmarried, divorced, separated, widowed and cohabiting. According to the protection argument, the association between marital status and health is a causal relationship primarily because marriage enhances women's material well-being and men's emotional well-being (Waite 1995). Marriage may protect health through several mechanisms. Theoretical explanations for the potential causal effects of marital status on health typically derive from either the marital resource model or the crisis model (Williams and Umberson 2004).

Marital Resource Model

The marital resource model suggests that health differences by marital status can be explained by the greater economic resources, social integration, and regulation of health behavior that the married enjoy relative to the unmarried (Ross, Mirowsky and Goldsteen 1990; Umberson 1992; Williams and Umberson 2004).

Economic Resources. Consistent evidence shows that marriage leads to increases in available economic resources through gains from specialization and economies of scales (Becker 1981) as well as by pooling wealth (Waite 1995; Brines and Joyner 1999). Increased economic resources may lead to improved health by improved nutrition, nurturing in case of an illness, and continuous purchase of medical care or other health enhancing resources (Lillard and Panis 1996). Marital effects on health through increased available economic resources work in different ways for men and women. Greater financial resources through marriage may play a more important role in accounting for the positive effect of marriage on longevity for women than for men (Zick and Smith 1991; Lillard and Waite 1995).

Social Integration, Social Support and Psychological Well-being. Marriage reinforces social integration by extending social connection and involvement in social relationships (House, Landis and Umberson 1988,Waite 1995; Waite and Lehrer 2003). Social integration not only enhances individuals' psychological well-being but also provides external regulation and facilitates self-regulation of health behaviors both of which can affect health (Umberson 1987). In addition, marriage may protect health through increasing social support and perceived security (Ross, Mirowsky and Goldsteen 1990; Ross and Mirowsky 2002). The influence of marriage on social integration and social support also varies by gender in that married men might benefit more from social integration and support. According to Lillard and Waite (1995), women usually take responsibility for maintaining relations with family and friends so unmarried men may find themselves relatively isolated while unmarried women are more likely to be embedded in a network of social support.

Social Control and Health Behavior. Umberson (1987) suggests that family status affects health through increasing social control and improving health behavior. Numerous studies have

demonstrated an association between marriage and health behavior (Chilcoat and Breslau 1996; Grzywacz and Marks 1999). Although, marriage is not always good for health behavior in that the married are more likely to have unhealthier body weight index and less physical exercise than the unmarried (Grzywacz and Marks 1999; Ross, Mirowsky and Goldsteen 1990), the married have better health behavior than the unmarried on average. The marital benefit for health behavior is more significant for men than women. The married, especially men, show dramatically lower levels of alcohol and cigarette consumption than their unmarried counterparts (Lillard and Waite 1995; Umberson 1992).

Crisis Model

In contrast to the marital resource model which attributes marital benefits to the positive effects experienced by the married, the crisis model attributes health differences by marital status to the negative effects associated with transitions out of marriage. Based on the crisis model, strains of marital dissolution are the primary causes undermining health of the divorced, separated and widowed which lead to the differences in health (Booth and Amato 1991; Williams and Umberson 2004). Marital disruption appears to substantially increase psychological stress and decrease subjective well-being which could result in unhealthy outcomes (Booth and Amato 1991; Waite 1995)

The crisis model gets much empirical support in recent years. For example, Booth and Amato (1991) find that divorce increases depression within two years after divorce and depression levels decrease to the baseline level two years after divorce whether the individual remarries or not. Williams and Umberson (2004) also find that the continually divorced and never married do not differ in self reported health compared to the continually married in a national survey. However, the transition to divorce does affect health, especially men's health,

although this effect is positive for younger men while negative for older men. Also, recently widowed men show a significant decline in health while long-term widowhood does not reveal a negative effect on health. A recent study in Germany by Brockmann and Klein (2004) find that any transitions, either into or out of marriage may increase mortality risk. All of these studies are more consistent with a crisis model than a resource model.

Selection Argument

Many studies argue that selection of the healthiest individuals into marriage may account for the lower mortality rates and better health status among the married. Spouses may be selected for better health not only *directly* through the exclusion of mentally and physically ill persons from marriage but also *indirectly* through a wide range of selection criteria including socioeconomic status (Oppenheimer 2003; Xie et al. 2003), health behaviors (Fu and Goldman 1996), and psychological characteristics (Mastekaasa 1992). Marriage selection works through two stages. The first stage occurs because individuals in better health or with more favorable health characteristics are more likely to experience transitions into marriage. The second stage occurs because those in poorer health or with fewer favorable health characteristics are more likely to experience transitions out of marriage.

Research about marriage formation suggests that low SES (especially for men) and being African American are both negatively associated with the likelihood and timing of marriage (Oppenheimer, Kalmijn and Lim 1997; Oppenheimer 2003; Xie et al. 2003; Carlson, Mclanahan and England 2004). Although not as well documented empirically as marriage selection on income, education and race, other selection criteria such as psychological well-being (Masterkassa1992), health behavior (Fu and Goldman 1996) and etc. are also suggested. These

studies provide evidence supporting the first stage of marriage selection (e.g. selection into marriage).

Research about marriage dissolution provides empirical evidence about the second stage of marriage selection (e.g. selection out of marriage). Raley and Bumpass (2003) suggest that lower socioeconomic status, African American status and fewer resources are all associated with higher risk of union dissolution and that the differentials in marital dissolution between those social groups have increased since 1980. Poorer health negatively affects marital quality (Booth and Johnson 1994) and increases the risk of divorce (Joung et al. 1998).

RECENT FAMILY CHANGES AND IMPLICATIONS FOR TRENDS IN HEALTH DIFFERENTIALS BY MARITAL STATUS

During the past half century, the United States has experienced great changes in family and marriage. Mean age at first marriage increased; the proportion of never married (especially for African Americans) increased; and cohabitation and marital dissolution rose dramatically (Ruggles 1997; Teachman et al. 2000; Casper and Bianchi 2001). All of these changes in family and marriage provide evidence that marriage has become less popular and valued among Americans. Bumpass (1990) relates recent family changes in the United States to the erosion of American values to family.

Research about marriage decline also finds that there is substantial group variation in marriage trends. Among whites, declines in marriage largely represent delays in marriage, whereas, among blacks, declines reflect both delays and decreases in the probability of ever marrying (Bennette, Bloom, and Craig 1989). Being African American and lower socioeconomic status are associated with a higher risk of union dissolution (Raley and Bumpass 2003) as well as lower likelihood of transition into marriage (Oppenheimer, Kalmijn and Lim 1997). Although

the probability of divorce has remained constant since 1980 in the United States (Goldstein 1999), the plateau in divorce only exists among whites and higher socioeconomic status groups rather than blacks and lower socioeconomic status groups (Raley and Bumpass 2003). According to Raley and Bumpass (2003), race and socioeconomic status differences in the risk of union dissolution have increased over recent decades.

Recent family change suggests potential changes in the association between marital status and health. Although previous studies have provided little empirical evidence regarding change in the association, there are reasonable theoretical grounds for expecting the association between marital status and health to vary over the 1970s to 2000s, a period characterized by rapid family changes.

Marital Resource Model (Marriage Gain Decline)

One of the most important theories explaining family changes is from the economist, Gary Becker (1978, 1981), who attributes recent family changes to a decline in gains from marriage. According to Becker, people get married in order to maximize their utility. Marriage makes individuals better off partly by allowing for specialization between the husband and wife, which yields greater productivity (Becker 1981). As the division of household labor decreased with increases in women's education and employment, specialization declined and the economic gain from marriage diminished. Marriage became less valued as a source of economic stability (Teachman et al. 2000). Thus, individuals have become less inclined to stay married. As described above, one of the mechanisms through which marriage benefits health is increased economic resources. If women's employment and independence diminishes the benefit of specialization between spouses and thus reduces the economic gain of marriage, then I should find that the marriage benefits to health have decreased over time.

Not only does marriage gain decline because marriage itself provides fewer benefits, marriage gain may also decline because of improved social welfare for individuals outside of marriage. This is especially true for women because recent welfare policies are more favorable to single mothers and divorced and unmarried women compared to their male counterparts. In other words, social welfare supporting single mothers and divorced and unmarried women may reduce the economic benefit of marriage more for women than men. Because greater economic resources through marriage play a more important role in accounting for the marital advantage in health for women than for men (Zick and Smith 1991; Lillard and Waite 1995), the decline in marriage economic gain may reduce the marital advantage in health for women more than men. In this sense, I predict that the marital benefit to health should decline more profoundly for women than men.

However, some sociologists do not agree with the argument about marriage gain decline. According to Oppenheimer (1988), the marriage gain does not necessarily decline. If Oppenheimer (1988) is correct, convergence trends in health differences by marital status will not occur.

Crisis Model (Normative and Attitudinal Change)

The marriage protection is reflected not only in that marriage itself benefits individuals but also in that the married are protected by marriage from the adverse effects of being in other family structures, such as divorced, separated, never married, widowed and cohabiting families. However, those non-married family structures are rising rapidly in the United States. A dramatic increase in the size of these unmarried groups can lead to normative and attitudinal changes. With increases in the divorced, separated, cohabiting and never married across all social groups, the stigma associated with those statuses is likely to decline. Normative and attitudinal changes

might lead to dampened negative effects from marriage dissolutions and other non-married family patterns.

The more common occurrence of divorce, separation, cohabitation and never-married status among blacks, those with lower socioeconomic status and younger birth cohorts indicates that those statuses might be more acceptable to those groups than to their white, higher socioeconomic status and older cohort counterparts. This may result in more dampened negative effects from those statuses for the former groups than the latter groups. Also, norms and attitudes about women in those non-married statuses might change more significantly relative to their male counterparts owning to the feminist movement and women's rights campaigns. This may also lead to more dampened negative influence of those non-married statuses for women than for men. The association between marital status and health might decrease more for women than for men. Consequently, I predict that the marital advantage in health is more likely to decrease among women, blacks, those with the lower socioeconomic status and younger birth cohorts than others.

Selection Model (Marriage Selection Change)

Although both the resource and crisis models predict a convergence of health differentials by marital status, the selection model provides mixed predictions about trends. The selection model suggests that individuals in better health or with more favorable health characteristics are more likely to be selected into marriage while those in worse health or with fewer favorable health characteristics are more likely to be selected out of marriage. Changes in the relative size of the individuals selected into or out of marriage imply that the selection criteria may have changed in the context of family change.

On the one hand, fewer people get married suggesting that the criteria of being selected into marriage may become higher. Therefore, the advantage of the married over the non-married may have increased. On the other hand, more people get divorced, separated, never married and cohabiting, which suggests that the negative criteria of being selected out of marriage may become lower so disadvantages associated with those non-married statuses relative to the married may have decreased. The overall effect of change in marriage selection on marital advantage in the context of current family change depends on the balance between these two potential forces. That is, enhanced positive selection criteria into marriage and lowered negative selection criteria out of marriage. Nevertheless, changes in marriage selection predict that the association between marital status and health changes over time, although the directions of the predictions from the selection model are mixed.

PREVIOUS EMPIRICAL EVIDENCE

Most of the previous studies about trends in health differences by marital status are based on European mortality data (Poppel and Joung 2001; Martikainen 2005; Valkonen, Martikainen and Blomgren 2004). All of these studies argue that the excess mortality of the unmarried relative to the married have been increasing over time. One of the very few previous studies examining trends in the association between marital status and health in the United States is by Mergenhagen, Lee and Gove (1985). They use two cross-sectional data between 1959-1961 and 1979 to compare the association between marital status and mortality among whites at those two time points. Their study reveals that the relative mortality rate for the divorced compared with the married declined during 1959-1979 while the opposite seemed true for the widowed and, to a less extent, the never married. The authors speculate the reason for the decreased disadvantage of

the divorced relative to the married as more social acceptability of divorce. As useful as it is, this study is quite dated, by now, more than two decades old.

A recent study by Waite (2000) finds a stable rather than changing marriage benefit on several dimensions of well-being, including self-rated health, across 1972-1996. However, the study by Waite (2000) has some limitations. First, the data used is from General Social Survey, which only includes about 1,500 individuals each year. Small number of cases in the sample limit the extension of the results. Secondly, the only physical health measure in the study is self-rated health. I argue that multiple dimensions of health measurements should contribute to our understanding in population health differentials. Last but not least, Waite (2000) classifies all of the previously married as one group without distinguishing among divorced, separated and widowed while the effects on health of becoming divorced, separated and widowed are expected to differ. As Waite (2000) points out "…Clearly, this is a topic that deserves more attention." (p.378). The proposed study will address most of the limitations of the previous studies by employing the latest larger national data in the United States and multiple dimensions of health measurement as well as more detailed classifications of marital status.

RESEARCH HYPOTHESES

There are at least two theoretical perspectives that emphasize the time dimension in the analysis of marital status differentials in health. The first is the life course perspective and the second is the historical change perspective. Most previous studies on marital differentials in health are from the life course perspective. Very little research addresses marital differentials in health from the historical trend perspective. Two strategies are usually used to analyze historical trends: analysis of cohort effects and of period effects. In this study, I mainly focus on the period trends in health differences by marital status while incorporating the cohort effect as a moderator.

A better understanding of the long-term trends in marital effects on health provides insight not only into population health but also in understanding marital change. Specifically, the following hypotheses will be explored in the proposed study.

Two main competing hypotheses:

1) The association between marital status and health decreases over time. This implies that health differentials by marital status converge over time.
2) The association between marital status and health increases over time. This implies that health differentials by marital status diverge over time.

Other related sub-hypotheses:

3) Health differentials by marital status are more likely to decrease/less likely to increase among women than men.
4) Health differentials by marital status are more likely to decrease/less likely to increase among the blacks than the whites.
5) Health differentials by marital status are more likely to decrease/less likely to increase among lower socioeconomic status groups than higher socioeconomic status groups.
6) Health differentials by marital status are more likely to decrease/less likely to increase among younger cohorts than older cohorts.

DATA, MEASURES AND ANALYTIC APPROACH

Data

Repeated cross-sectional data from the National Health Interview Survey (NHIS) 1972-2003 will be used to analyze historical trends in marital status differentials in health. The NHIS is a multistage probability sample survey conducted annually by United States Department of Health and Human Services and National Center for Health Statistics and is representative of the

civilian noninstitutionalized population of the United States. All analyses presented here are weighted to adjust for this sampling design and robust standard error corrected for the weighting are reported.

In this study, we only include those who are either white or African Americans at the age between 25 and 64 when the surveys were collected. Because white population includes a significant fraction of Hispanic origin population who show distinct characteristics from other whites, we exclude those who are identified as Hispanic origin[1]. Missing cases on health status and marital status are dropped from the analysis. Cohabitation information is only collected by NHIS since 1997, which is relatively too short for this analysis, so we exclude the cohabitation cases from the analysis. Finally, 501,120 and 939,469[2] observations are included in the analysis for 1972-1981 and 1982-2003 respectively.

Measures

Respondent reported health is the primary measurement for *health status* in this analysis. Between 1972 and 1981, respondents rated health according to four categories: 1) excellent, 2) good, 3) fair, and 4) poor, while between 1982 and 2003, respondents rated health according to five categories: 1) excellent, 2) very good, 3) good, 4) fair, and 5) poor. Health variables are recorded so that higher value represents better health.

Marital status is determined from the information collected in the interview and from the question, "Are you now married, widowed, divorced, separated or never married?" Married with spouse absent are counted as the separated instead of the married because they are more similar to the former than the latter. Thus five categories of marital status including married, widowed,

[1] Unfortunately, NHIS did not provide Hispanic origin information until 1977 so we can not exclude Hispanic origin samples between 1972 and 1976. However, considering the relative small portion of Hispanic population in the United States before 1977, we think this should not affect the results.
[2] 1249 observations having zero weights were excluded since they do not contribute to the analysis.

divorced, separated and never married are included in the final analysis with the married as the reference group.

Period time is indicated by a variable identifying the survey year from 1972 (coded as 0) to 1981 (coded as 9) and from 1982 (coded as 0) to 2003 (coded as 21).

Tw*o birth cohorts* are included in the analysis according to the periods they experienced the marriage age. The younger cohort includes all of those who were born after 1945 while the older cohort includes those who were born no later than 1945. Because most of the younger birth cohort experienced their marriage age after the 1960s when family decline started in the United States, this classification of birth cohorts is helpful in identifying the influences of family change on different cohorts. Birth cohort serves as a moderator in the analysis to examine if period trends are different across different birth cohorts. Missing values on birth year are calculated by subtracting age from the survey year.

Other covariates in the analysis include gender (female=1, male=0), race (non-Hispanic black=1, non-Hispanic white=0) and education (lower education=1, others=0) which are all known to be associated with both marital status and health. Lower education is referred to those with highest year of schooling no more than 12 years without diploma. About 1% of observations have missing information on education which are recoded at mean value of the year. Education also serves as the indicator of SES in this analysis. We do not control income in the analysis because of the endogenous relationship between income and marital status.

Table 1 summarizes the statistical distributions of the variables in the analysis for 1972-1981 and 1982-2003 separately. Table 1 shows that the average value for respondent-reported health is 3.27 for 1972-1981 with maximum value of 4 and 3.89 for 1982-2003 with maximum value of 5. For both periods' NHIS samples analyzed, mean age is about 42 and about half of

them are women. About 10 and 13 percent are blacks in 1972-1981 and 1982-2003 samples respectively. 29 percent samples have no diploma in 1972-1981 while only 14 percent samples have no diploma in 1982-2003. 22 percent samples in 1971-1982 are born after 1945 while 66 percent samples in 1982-2003 are born after 1945. There are also some shifts in marital status between those two periods. The proportion of the married and widowed decreased while the proportion of the divorced, separated and never married increased between 1972-1981 and 1982-2003.

Table 1 about here

Analytic Design

In this study, we mainly focus on the period trend of marital status differences in health while incorporating the cohort effect as a moderator because different cohorts may have experienced different changes in this association. Because of the inconsistent measures on respondent-reported health between 1972-1981 and 1982-2003, we choose to make the analysis separately by these two periods. There are at least three advantages in doing this. First, it provides a strategy to analyze the inconsistent-coded health status from NHIS across two periods. Second, compared to the other option of clustering some health categories, this strategy makes full use of the information on the respondent-reported health in NHIS. Last and not least, there is a plateau in divorce since 1980 when the increase in divorce has slowed down in the United States (Goldstein 1999), especially among whites and higher socioeconomic status groups. This divorce plateau differentiates family changes before and after 1980. Separating 1972-1981 and 1982-2003 allows us to examine the potential different health trends by marital status in varying family change context.

We estimate trends in health differentials by marital status using ordered logit model which is appropriate for ordered categorical dependent variable. Ordered logit regression can be expressed in the following equation.

$$\log \frac{(y >= k \mid X_i, M_j, T)}{(y < k \mid X_i, M_j, T)} = \tau_k + \alpha \cdot T + \sum \beta_j \cdot M_j + \sum \gamma_j \cdot M_j \cdot T + \sum \pi_i \cdot X_i$$

Where y represents the dependent variable indicating health status; k represent the category of health status; τ_k represent the intercepts corresponding the *k*th health category; T is the period time variable and α is the its coefficient; M_j represents the set of marital status dummy variables and β_j are the corresponding coefficients ("married" is the reference group); γ_j represent the corresponding coefficients for the set of interaction terms of marital status and time; X_i are the other explanatory covariate included in the model and π_i are the corresponding coefficients.

A positive coefficient indicates that adding this additive is associated with increased odds of being in the higher order of health status (e.g. better health) and a negative coefficient indicates that adding this additive is associated with decreased probability of reporting better health. In other words, a positive coefficient implies a positive association between the covariate and health while a negative coefficient implies a negative association between the covariate and health. Specifically, the coefficients of the interaction terms, γ_j, reflect the differences in the trends of health by marital status. Interpretation of γ_j depends on the direction of α. A positive α indicates that health status of the reference group (e.g. the married) are improved over time. With positive α, the positive γ_j implies that the health of those in that specific marital status increase more rapidly relative to the married while the negative γ_j implies that the health of those in that specific marital status improves less rapidly than the married (or even decreases). When α is

negative, health status of the married is declined over time and then the negative (positive) γ_j implies that the health of those in that specific marital status declines more rapidly (more slowly or even increases) relative to the married. In fact, the specific health trend for a particular marital status group depends on the combination of the α and γ_j. In other words, for a specific marital status group j, the odds of reporting higher order category of health status (e.g. better health) is increased (or decreased) by $\{\exp(\alpha+\gamma_j)-1\}$x100% (or $\{1-\exp(\alpha+\gamma_j)\}$x100%) every year.

I run parallel regressions for women, men, non-Hispanic African American, non-Hispanic whites, lower SES group, higher SES group, older birth cohort and younger birth cohort to test if the historical trends are different between gender, racial, SES and birth cohort groups. T-tests are conducted to examine whether the differences in the trends between subgroups are statistically significant.

RESULTS

Trends during 1972-1981

Figure 1 plots changes in mean health values by marital status over 1972-1981. From Figure 1 we can see that except for the earlier period there was a steady improvement in health for the total population over this period. There was a small convergence between the married and divorced as well as separated over 1972-1981 because health of the divorced and separated increased more rapidly relative to the married.

Figure 1 about here

Table 2 shows the estimations of trends 1972-1981 in respondent-reported health by marital status from the weighted ordered logistic regression models. The leftmost panel shows trends among the total population. The other four panels show trends among different gender,

race, SES and birth cohort groups respectively. Within each panel, we present the model estimations as well as p-values of the two-tailed t-tests showing whether the differences in the coefficients between groups are statistically significant.

Table 2 about here

Model 1 of Table 2 shows general trends in health among different groups without controlling any covariates. For the overall population, respondent-reported health showed improvement across 1972-1981. This was also true for both women and men as well as for both non-Hispanic blacks and whites, although women showed significantly more rapid improvement in health than men over this period. Although the general population showed trend of improving health, within either SES or birth cohort groups worsen health trends were observed. It implies that the overall trend of improvement in health across 1972-1981 was mainly resulted from shifts in education and birth cohort compositions. The proportions of population with higher education and from younger birth cohort increased over time and they usually had better health than their lower education and older birth cohort counterpart. Increased weight placed by the higher education and younger birth cohort among the whole population drove the overall health trend up. However, within either SES or birth cohort groups, health declined over 1972-1981. Health decline over 1972-1981 was more profound among low SES group than high SES group.

Model 2 of Table 2 shows trends of 1972-1981 in respondent-reported health by marital status among different groups without controlling other covariates. Results from Model 2 of Table 2 show consistent evidence about marriage advantage in health with previous literatures. The unmarried including the widowed, divorced, separated and never married showed worse health than the married at the beginning of the study period for all groups except for the never married women who show no significant difference in health from the married women. For the

whole population, the married showed improvement in health over 1972-1981; the widowed and never married showed the same trends in health as the married over this period; and the divorced and separated showed more rapid improvement in health than the married, which leads to a convergence in health between the currently married and the divorced or separated over 1972-1981. Among women, convergence trends in health over 1972-1981 only presented between the married and separated. Among men, the convergence trends in health presented between the married and divorced as well as never married. We find convergent trends in health between the married and unmarried including the divorced, separated and never married among non-Hispanic whites but not among non-Hispanic blacks. For both low and high SES groups, the unmarried did not show different trends in health from the married over 1972-1981. Although there were no different health trends by marital status among the younger birth cohort, we found that among the older birth cohort the previously married including the widowed, divorced and separated showed convergent trends in health with the currently married in that the health of the currently married decreased while the health of the widowed, divorced and separated increased over 1972-1981. In contrast, among the older birth cohort, the never married showed a more rapid decline in health than the currently married so that the difference in health between those two groups diverged over 1972-1981.

Model 3 of Table 2 shows health trends of 1972-1981 by marital status netting the effects of age, gender, race and education. After controlling those covariates, the disadvantage in health of the widowed becomes not significant for most of the social groups. This is consistent with the argument that the widowed has worse health than the married mainly because their age structure and other sociodemographic characteristics are less favorable to health relative to the currently married. What is interesting in Model 3 of Table 2 is that after controlling those covariates health

of the married declined for most of the social groups except for the married non-Hispanic blacks who showed no change in health over 1972-1981. In addition, after controlling those covariates, health differences by marital status do not change over time except for the low SES group. Among the low SES group, the separated showed improvement in health while health of the other marital status groups including the currently married, widowed, divorced and never married declined over 1972-1981. This distinct health trend of the separated from the married leads to a convergence between those two groups over 1972-1981 after netting the sociodemographic effects.

Trends during 1982-2003

Figure 2 presents changes in mean health values by marital status over 1982-2003 respectively. From Figure 2 we can see that the married generally showed some unstable improvement in health across 1982-2003 while the divorced and never married showed some declines in health. The differences between the married and divorced or never married increased over 1982-2003.

Figure 2 about here

Table 3 shows the estimations of trends 1982-2003 in respondent-reported health by marital status from the weighted ordered logistic regression models. Similar to Table 2, the leftmost panel shows trends among the whole population and the other panels show trends among different social groups. Both model estimations and p-values of two-tailed t-tests are presented in each panel.

Table 3 about here

Model 1 of Table 3 shows general trends of 1982-2003 in respondent-reported health among different groups without controlling any covariates. For the overall population,

respondent-reported health declined across 1982-2003. Health declined among men and non-Hispanic whites but women and blacks gained improvement in health over 1982-2003. Health of the low SES group did not change although high SES group showed decline in health over 1982-2003. Health of the younger birth cohort declined more rapidly than the older birth cohort over 1982-2003.

Model 2 of Table 3 shows trends of 1982-2003 in respondent-reported health by marital status among different groups without controlling other covariates. Results from Model 2 of Table 3 show that health of the married were better than the previously married including the widowed, divorced and separated for all social groups at the beginning of this study period. Evidence about marriage advantage in health over the never married is mixed from Model 2 of Table 3. At the beginning of the examined period, the marriage advantage in health over the never married only existed among low SES group and the two birth cohorts. In contrast, the never married showed better health than the currently married among women, non-Hispanic whites and high SES group as well as the overall population at the beginning of the examined period. For men and non-Hispanic blacks there was no difference in health between the never married and currently married at the beginning of the examined period. For the whole population, the married showed improvement in health over 1982-2003; the widowed and separated showed the same trends in health as the married over this period; while the divorced and never married showed declines in health over 1982-2003. Thus, there was a divergence in health between the divorced and currently married while the advantage of the never married in health over the currently married diminished across 1982-2003. Divergence trends in health between the divorced and currently married presented among all separate social groups. The relative health advantage of the never married over the married diminished for all social groups

too except for the low SES group and older birth cohort among whom trend of the never married was not significantly different from the currently married across 1982-2003. Model 2 of Table 3 also shows evidence for divergent trends in health between the separated and married for women, non-Hispanic whites and high SES group across 1982-2003. We also find that there was a divergence in health between the widowed and married for the low SES group while there was a convergence between those two marital status groups among the older birth cohort across 1982-2003.

Model 3 of Table 3 shows health trends by marital status netting the effects of age, gender, race and education over 1982-2003. After controlling those covariates, the advantage in health of the never married disappeared for all social groups. This is consistent with the argument that the never married have better health than the married mainly because their age structure and other social characteristics are more favorable to health than the currently married. Model 3 of Table 2 shows that after controlling those covariates, health of the married did not change for the overall population across 1982-2003. However, this conclusion is contingent on different social groups. Specifically, health of the married improved across time for women, blacks and older birth cohort, while it declined for men, whites and younger birth cohort during 1982-2003. Among both high and low SES groups, health of the married did not change over 1982-2003. For the overall population, health differences between the married and all the unmarried groups increased over time. For women, health difference between the married and all unmarried status increased over time, while those divergent trends are less profound among men and only existed for the divorced and never married relative to the married. The divergent trends presented for all marital status groups among non-Hispanic whites but not among non-Hispanic blacks. Similarly, the divergent trends presented among all marital status groups among high

SES group while they only existed for the widowed relative to the married among the low SES group. For low SES group, the never married showed a convergent trend in health with the currently married across 1982-2003. Health difference between the married and divorced increased for both younger and older birth cohorts. There was also a divergence in health between the never married and married for younger birth cohort but not for older birth cohort across 1982-2003.

CONCLUSION AND DISCUSSION

When family sociologists and demographers argue about the reasons for family change in the United States, the implications of this family change are relatively overlooked. What does this family change mean to the United States? We try to address one aspect of the implications of family changes in the United States in the paper. Specifically, what does these family changes mean to the marriage advantage in health. Although different theoretical models predict different trends for marriage advantage in health, they all suggested changed instead of stable association between marital status and heath in the context of rapid family change.

Our analysis based on pooled data from National Health Interview Survey shows that over 1972-1981 health difference between the married and unmarried, especially the divorced and separated, decreased over time in that the unmarried groups showed more rapidly improvement in health than the married. However, those convergent trends were mostly explained by the changes in sociodemographic composition. In other words, the diminishing of marriage advantage in health was mainly resulted from the relatively enhanced sociodemographic characteristics of the unmarried, especially the divorced and separated compared with the married, over 1972-1981. We do not find consistent evidence supporting our

hypothesis that the convergence trends are more likely to occur among women, blacks, low SES and younger birth cohort than others.

Our analysis based on pooled data from National Health Interview Survey 1982-2003 shows that the relative marriage advantage over the unmarried increased over time. Different from 1971-1982, health difference between the married and unmarried increased over 1982-2003. The results by social groups provide mixed evidence about our hypotheses. Evidence that divergent trends in health differentials by marital status are more profound among non-Hispanic whites and high SES than among blacks and low SES are consistent with our hypotheses. However, evidence that divergent trends in health differentials by marital status are more profound among women and younger birth cohort than men and older birth cohort are against our hypotheses.

Mergenhagen et. al (1985) find that the divorced became healthier compared with the married from 1959-1960 to 1979 using mortality as the measurement for health. Our results based on repeated cross-sectional data from NHIS 1971-1982 come to the similar conclusion as Mergenhagen et. al (1985) by using respondent-reported health as the measurement for health for this period.. However since the 1980s health differences by marital status have changed by showing divergence between the married and unmarried. There is a divorce plateau since 1980s (Goldstein 1999; Raley and Bumpass 2003), so the normative change about divorce might be slowed down during this plateau period. Consequently, the influence of the normative change and weakened stigma for the divorced might have been dampened since the 1980s. This might be the reason why the divorced stopped becoming better in health after 1980. However, why did the unmarried become even worse relative to the married? Our study can not answer this question because of the nature of the cross-sectional data. However, one possible explanation for the

worsen situation for the divorced might be the more complicated procedures of divorce which made the divorced more stressed and further led to worse health. Nevertheless, the worsened health status of the unmarried relative to the married in the United States since 1980s is consistent with other previous studies based on European data (Poppel and Joung 2001; Martikaine 2005; Valkonen et. al 2005; Hu and Goldman 1990).

Our study shows that marital status is an important factor influencing changes in health status across time and the relationship between marital status and health changed over the recent three decades. However, there are some limitations in this study. One of the most important limitations is from the repeated cross-sectional data we use which is limited in assessing the relative importance of selection and protection effects of marriage on health. Goldman (1993) has demonstrated the limitations of cross-sectional data as well as the importance of longitudinal panel data for evaluating the relative roles of causal and selection processes in producing the excess mortality of the unmarried population. However, repeated cross-sectional data are valuable resources for analyses in historical trends, which are the main purposes of this study. In this study, we describe trends in the association between marital status and health, but we can not draw the conclusion about whether those changes are resulted from changes in marriage protection or marriage selection. Future studies need focus on explanations for trends in this association.

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TABLE 1. Summary Statistics of Analyzed Variables (Weighted)

	1972-1981 (N=501,120)			1982-2003 (N= 939,469)	
	Mean	**S.D.** [a]		**Mean**	**S.D.** [a]
Health(1-4)	3.27	0.80	**Health(1-5)**	3.89	1.07
Age	42.70	11.67	**Age**	42.35	11.06
Female	0.52	0.50	**Female**	0.51	0.50
Black	0.10	0.30	**Black**	0.13	0.36
Lower education	0.29	0.45	**Lower education**	0.14	0.35
Younger cohort	0.22	0.41	**Younger cohort**	0.66	0.48
Marital status	**Percentage**		**Marital status**	**Percentage**	
Married	78.32		**Married**	72.61	
Widowed	3.93		**Widowed**	2.48	
Divorced	6.21		**Divorced**	9.51	
Separated	3.18		**Separated**	3.21	
Never married	8.36		**Never married**	12.19	
Total	100.00		**Total**	100.00	

[a] Standard deviations are from the unweighted results.

TABLE 2. Trends of Marital Status Effects on Respondent Reported Health from Weighted Ordered Logit Model 1972-1981 (25-64)

	All	Female	Male	Pr(F=M)	NH Black	NH White	Pr(B=W)	Low SES	High SES	Pr(L=H)	Younger Cohort	Older Cohort	Pr(Y=O)
	Model 1												
Year	0.0079***	0.0120***	0.0033*	0.0000	0.0115***	0.0088***	0.4032	-0.0201***	-0.0059***	0.0000	-0.0087***	-0.0112***	0.2995
Cut1	-3.2320	-3.2587	-3.2064		-2.5794	-3.3335		-2.5239	-3.9557		-4.4588	-3.1330	
Cut2	-1.6930	-1.5903	-1.8112		-0.9469	-1.8012		-0.9829	-2.2772		-2.5258	-1.6222	
Cut3	0.2262	0.4003	0.0394		0.8508	0.1634		0.8596	-0.1135		-0.2293	0.2493	
Pseudo R2	0.0001	0.0002	0.0000		0.0001	0.0001		0.0004	0.0000		0.0001	0.0001	
	Model 2												
YearXMaritial Status(0=Married)													
Year	0.0072***	0.0110***	0.0032*	0.0003	0.0119**	0.0071***	0.1921	-0.0203***	-0.0054***	0.0000	-0.0081**	-0.0119***	0.1651
YearXWidowed	-0.0021	-0.0036	-0.0083	0.7321	-0.0104	-0.0001	0.5697	0.0033	-0.0037	0.5777	0.0055	0.0148**	0.7303
YearXDivorced	0.0090*	0.0044	0.0142*	0.2557	-0.0028	0.0103*	0.3602	0.0033	0.0065	0.7362	0.0100	0.0151**	0.6335
YearXSeparated	0.0198***	0.0187*	0.0176	0.9299	0.0087	0.0203**	0.6108	0.0155	0.0102	0.7041	0.0182	0.0172*	0.9518
YearXNeverMarried	0.0062	0.0026	0.0099*	0.2995	-0.0046	0.0130***	0.1396	0.0107	0.0032	0.3376	-0.0012	-0.0122*	0.2603
Marital Status(0=Married)													
Widowed	-0.6885***	-0.5645***	-0.7731***	0.0024	-0.7189***	-0.6032***	0.2009	-0.4868***	-0.4820***	0.9413	-0.7245*	-0.6446***	0.6455
Divorced	-0.2859***	-0.1615***	-0.3952***	0.0000	-0.1879**	-0.2383***	0.5278	-0.2785***	-0.2595***	0.7159	-0.5042***	-0.2755***	0.0001
Separated	-0.6600***	-0.7081***	-0.4948***	0.0009	-0.5092***	-0.4040***	0.3794	-0.4863***	-0.4428***	0.5643	-0.7746***	-0.6600***	0.1461
Never Married	-0.1613***	-0.0289	-0.2981***	0.0000	-0.1055*	-0.1232***	0.7831	-0.3738***	-0.1695***	0.0000	-0.3284***	-0.2194***	0.0225
Cut1	-3.3214	-3.3510	-3.2778		-2.7444	-3.3927		-2.6255	-4.0119		-4.5906	-3.2235	
Cut2	-1.7759	-1.6740	-1.8794		-1.0963	-1.8571		-1.0769	-2.3313		-2.6532	-1.7061	
Cut3	0.1557	0.3304	-0.0206		0.7215	0.1140		0.7765	-0.1621		-0.3412	0.1770	
Pseudo R2	0.0038	0.0042	0.0027		0.0062	0.0021		0.0035	0.0019		0.0054	0.0037	
	Model 3												
YearXMaritial Status(0=Married)													
Year	-0.0081***	-0.0040**	-0.0123***	0.0002	-0.0067	-0.0083***	0.6653	-0.0166***	-0.0037**	0.0000	-0.0116***	-0.0042***	0.0115
YearXWidowed	0.0001	-0.0011	-0.0075	0.6400	0.0026	0.0001	0.8916	0.0039	-0.0012	0.6900	-0.0080	-0.0016	0.8179
YearXDivorced	0.0028	-0.0002	0.0060	0.4847	0.0046	0.0026	0.8889	0.0003	0.0020	0.8617	0.0066	0.0093	0.8032
YearXSeparated	0.0097	0.0086	0.0093	0.9581	0.0161	0.0066	0.6811	0.0179*	0.0061	0.3992	0.0098	0.0132	0.8270
YearXNeverMarried	-0.0000	-0.0026	0.0031	0.4246	-0.0046	0.0013	0.6315	0.0036	-0.0045	0.3105	0.0079	0.0044	0.7287
Marital Status(0=Married)													
Widowed	-0.0275	0.0018	-0.1965**	0.0046	-0.1816**	0.0035	0.0480	-0.0708*	0.0007	0.2823	-0.2936	0.0089	0.0907

Divorced	-0.2230***	-0.0934**	-0.4050***	0.0000	-0.2055***	-0.2244***	0.8186	-0.2598***	-0.1954***	0.2288	-0.4005***	-0.2130***	0.0020
Separated	-0.3548***	-0.3386***	-0.3268***	0.8561	-0.4394***	-0.3111***	0.2895	-0.4217***	-0.3258***	0.2050	-0.4257***	-0.3487***	0.3287
Never Married	-0.3448***	-0.1089***	-0.5616***	0.0000	-0.3428***	-0.3477***	0.9405	-0.4471***	-0.2903***	0.0003	-0.4029***	-0.3167***	0.0796
Sociodemographic Variables													
Age	-0.0309***	-0.0271***	-0.0356***	0.0000	-0.0313***	-0.0310***	0.7092	-0.0316***	-0.0305***	0.0555	-0.0089**	-0.0350***	0.0000
Female	-0.2781***	---	---	---	-0.4111***	-0.2612***	0.0000	-0.2603***	-0.2847***	0.0529	-0.3587***	-0.2577***	0.0000
Black	-0.5754***	-0.6935***	-0.4497***	0.0000	---	---	---	-0.3979***	-0.7038***	0.0000	-0.5742***	-0.5816***	0.7617
Lower Education	-0.9629***	-1.0005***	-0.9180***	0.0000	-0.7022***	-1.0015***	0.0000	---	---	---	-0.9839***	-0.9510***	0.0485
Cut1	-5.3830	-5.1056	-5.4007		-4.8044	-5.3839		-4.3289	-5.5319		-5.3618	-5.4928	
Cut2	-3.7603	-3.3468	-3.9290		-3.0769	-3.7847		-2.7460	-3.8325		-3.3932	-3.9001	
Cut3	-1.6503	-1.1634	-1.9001		-1.1265	-1.6499		-0.8301	-1.5987		-0.9855	-1.8460	
Pseudo R2	0.0548	0.0519	0.0551		0.0432	0.0496		0.0208	0.0231		0.0326	0.0524	
N	501120	263521	237599		48360	452760		145519	355601		105356	395764	

***p<0.001; **p<0.01; *p<0.05

TABLE 3. Trends of Marital Status Effects on Respondent Reported Health from Weighted Ordered Logit Model 1982-2003 (25-64)

	All	Female	Male	Pr(F=M)	NH Black	NH White	Pr(B=W)	Low SES	High SES	Pr(L=H)	Younger Cohort	Older Cohort	Pr(Y=O)
						Model 1							
Year	-0.0012***	0.0034***	-0.0063***	0.0000	0.0148***	-0.0027***	0.0000	0.0009	-0.0099***	0.0000	-0.0198***	-0.0124***	0.0000
Cut1	-3.5658	-3.5305	-3.6059		-2.8207	-3.6957		-2.2637	-4.1430		-4.4369	-2.9891	
Cut2	-2.1912	-2.0738	-2.3220		-1.3549	-2.3361		-0.9596	-2.6352		-2.8567	-1.7160	
Cut3	-0.6918	-0.5408	-0.8573		0.0872	-0.8015		0.4023	-0.9811		-1.1866	-0.3206	
Cut4	0.5829	0.7455	0.4136		1.2372	0.5053		1.5147	0.3681		0.1943	0.8374	
Pseudo R2	0.0000	0.0001	0.0002		0.0009	0.0000		0.0000	0.0004		0.0017	0.0006	
						Model 2							
YearXMaritial Status(0=Married)													
Year	0.0023***	0.0076***	-0.0030***	0.0000	0.0163***	0.0013***	0.0000	0.0035***	-0.0063***	0.0000	-0.0176***	-0.0106***	0.0000
YearXWidowed	0.0029	-0.0022	0.0070	0.1010	0.0073	-0.0001	0.2425	-0.0113**	-0.0016	0.1376	-0.0072	0.0111***	0.0169
YearXDivorced	-0.0171***	-0.0214***	-0.0137***	0.0011	-0.0122***	-0.0197***	0.0217	-0.0103***	-0.0172***	0.0370	-0.0113***	-0.0120***	0.7783
YearXSeparated	-0.0031	-0.0074**	-0.0012	0.1201	0.0048	-0.0158***	0.0007	-0.0038	-0.0075***	0.5094	0.0011	-0.0072	0.0589
YearXNeverMarried	-0.0141***	-0.0165***	-0.0109***	0.0066	-0.0068**	-0.0168***	0.0007	0.0030	-0.0121***	0.0000	-0.0045***	-0.0039	0.7968
Marital Status(0=Married)													
Widowed	-0.9622***	-0.8390***	-1.0425***	0.0023	-1.1327***	-0.8114***	0.0000	-0.5987***	-0.7320***	0.0823	-0.7678***	-0.6242***	0.1947
Divorced	-0.1778***	-0.0611***	-0.2758***	0.0000	-0.1829***	-0.1096***	0.0731	-0.2309***	-0.1623***	0.0932	-0.3239***	-0.0924***	0.0000
Separated	-0.5034***	-0.5045***	-0.4080***	0.0497	-0.4939***	-0.1775***	0.0000	-0.3630***	-0.3509***	0.8631	-0.6345***	-0.4887***	0.0042
Never Married	0.0657***	0.0827***	0.0222	0.0171	0.0225	0.1981***	0.0000	-0.1476***	0.0528***	0.0000	-0.2073***	-0.2771***	0.0155
Cut1	-3.6355	-3.6105	-3.6501		-2.9723	-3.7230		-2.3634	-4.1883		-4.5414	-3.0674	
Cut2	-2.2542	-2.1449	-2.3627		-1.4907	-2.3591		-1.0492	-2.6768		-2.9564	-1.7883	
Cut3	-0.7425	-0.5970	-0.8905		-0.0292	-0.8163		0.3252	-1.0149		-1.2752	-0.3840	
Cut4	0.5419	0.7000	0.3870		1.1315	0.4974		1.4431	0.3414		0.1164	0.7791	
Pseudo R2	0.0042	0.0050	0.0029		0.0070	0.0030		0.0037	0.0034		0.0059	0.0034	
						Model 3							
YearXMaritial Status(0=Married)													
Year	0.0004	0.0053***	-0.0045***	0.0000	0.0136***	-0.0010*	0.0000	0.0013	0.0000	0.2484	-0.0019***	0.0038***	0.0000
YearXWidowed	-0.0066**	-0.0100***	-0.0072	0.6188	0.0034	-0.0104***	0.0304	-0.0093*	-0.0068**	0.7069	-0.0014	-0.0043	0.7010
YearXDivorced	-0.0106***	-0.0151***	-0.0057**	0.0001	-0.0024	-0.0131***	0.0013	-0.0020	-0.0127***	0.0015	-0.0088***	-0.0069***	0.4671
YearXSeparated	-0.0051**	-0.0098***	-0.0021	0.0552	0.0047	-0.0146***	0.0017	-0.0009	-0.0063**	0.3451	-0.0035	-0.0053	0.6809
YearXNeverMarried	-0.0064***	-0.0077***	-0.0042**	0.0905	0.0010	-0.0112***	0.0000	0.0077**	-0.0087***	0.0000	-0.0065***	0.0006	0.0079

Marital Status(0=Married)														
Widowed	-0.1569***	-0.1093***	-0.2744***	0.0147	-0.3397***	-0.0815**	0.0004	-0.1158**	-0.1517***	0.6462	-0.4529***	-0.0673**	0.0004	
Divorced	-0.1514***	-0.0171	-0.3211***	0.0000	-0.1484***	-0.1336***	0.7236	-0.2853***	-0.1198***	0.0001	-0.2376***	-0.1032***	0.0000	
Separated	-0.3058***	-0.2646***	-0.2940***	0.5487	-0.4052***	-0.1960***	0.0047	-0.3889***	-0.2856***	0.1412	-0.3719***	-0.2240***	0.0034	
Never Married	-0.2230***	-0.0933***	-0.3513***	0.0000	-0.3277***	-0.1777***	0.0000	-0.4234***	-0.1881***	0.0000	-0.2376***	-0.2137***	0.4051	
Sociodemographic Variables														
Age	-0.0358***	-0.0327***	-0.0395***	0.0000	-0.0450***	-0.0348***	0.0000	-0.0395***	-0.0349***	0.0000	-0.0326***	-0.0430***	0.0000	
Female	-0.2013***	---	---	---	-0.2982***	-0.1889***	0.0000	-0.1991***	-0.2003***	0.9173	-0.2261***	-0.1548***	0.0000	
Black	-0.5469***	-0.6310***	-0.4646***	0.0000	---	---	---	-0.3156***	-0.6030***	0.0000	-0.5019***	-0.6554***	0.0000	
Lower Education	-1.1389***	-1.1720***	-1.1050***	0.0000	-0.8371***	-1.1989***	0.0000	---	---	---	-1.1011***	-1.1178***	0.2365	
Cut1	-5.7017	-5.4349	-5.7773		-5.4069	-5.6677		-4.4487	-5.8313		-5.9375	-5.7969		
Cut2	-4.2550	-3.8995	-4.4282		-3.8363	-4.2526		-3.0903	-4.3039		-4.3226	-4.4456		
Cut3	-2.6191	-2.2244	-2.8364		-2.2429	-2.6036		-1.6443	-2.5956		-2.5731	-2.9196		
Cut4	-1.2391	-0.8378	-1.4607		-1.0003	-1.2037		-0.4810	-1.1898		-1.1243	-1.6766		
Pseudo R2	0.0428	0.0417	0.0427		0.0462	0.0371		0.0258	0.0218		0.0276	0.0396		
N	939469	494628	444841		139288	800181		138081	801388		594640	344829		

***p<0.001; **p<0.01; *p<0.05

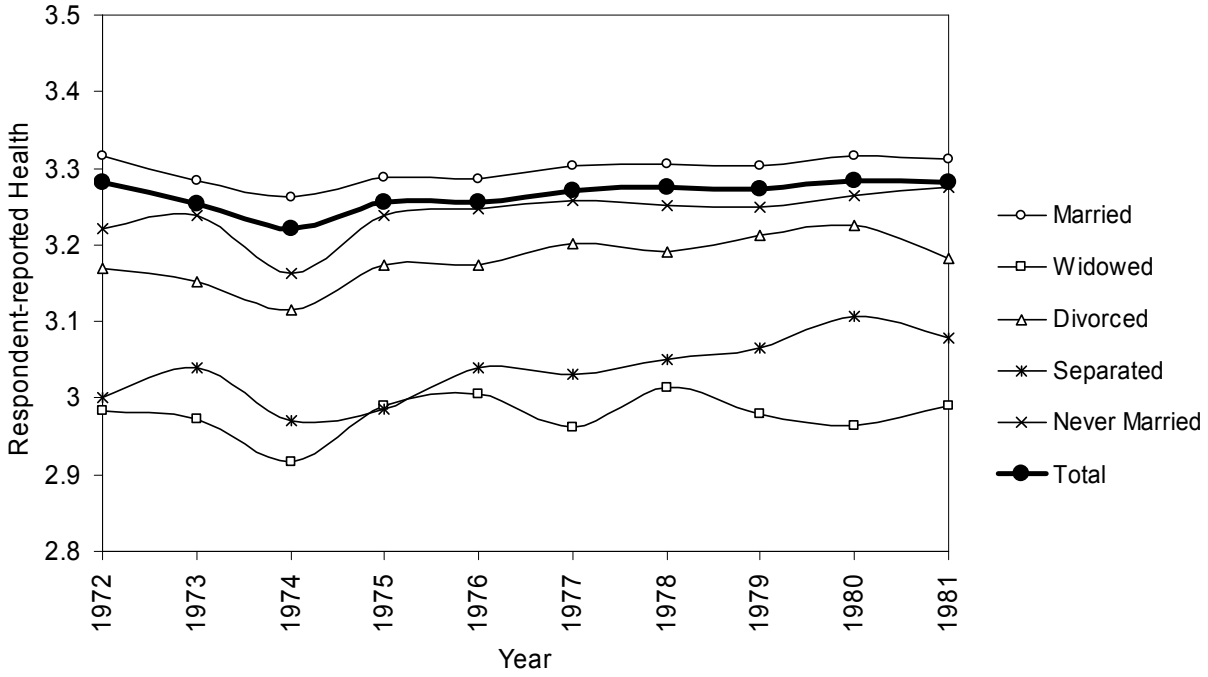

FIGURE 1. Descriptive Trends in Mean Respondent-Reported Health by Marital Status, 1972-1981

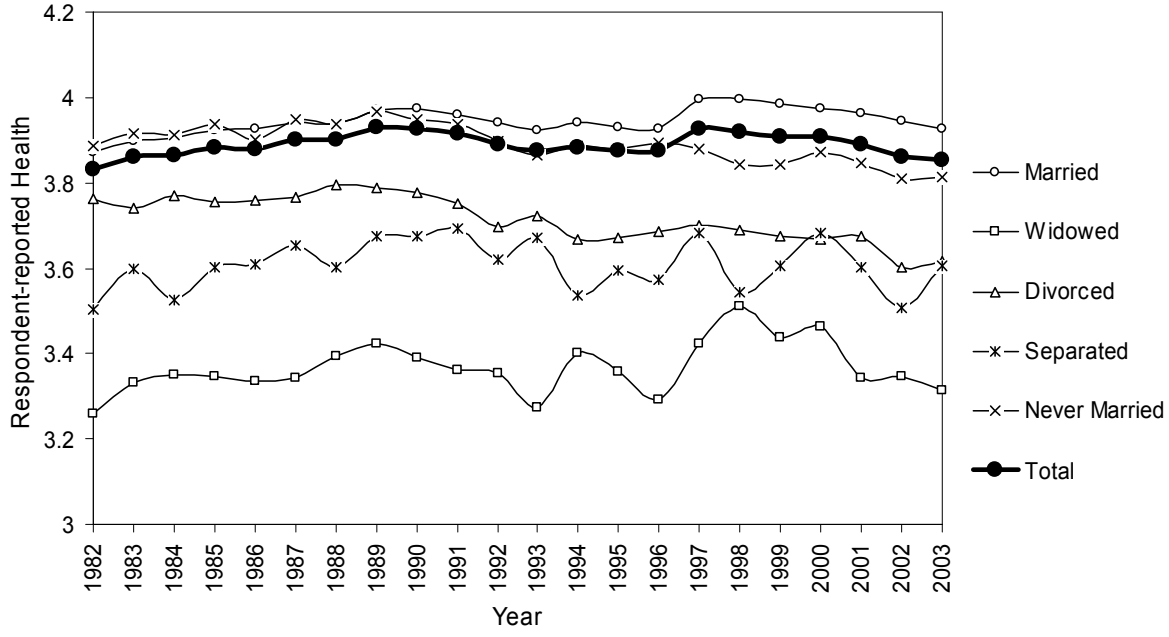

FIGURE 2. Descriptive Trends in Mean Respondent-Reported Health by Marital Status, 1982-2003