

THE ASSOCIATION BETWEEN HEALTH-RELATED BEHAVIOURS AND THE RISK OF DIVORCE IN THE USA

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Summary. This study investigates the link between health-related variables and risks of divorce. The findings indicate that physical characteristics associated with poor health – namely, obesity and short stature – are not significantly related to risks of marital dissolution for either men or women. On the other hand, risk-taking behaviours – such as smoking and drug use – are strongly related to higher risks of divorce for both sexes. Overall, the results emphasize the need to accommodate health-related variables in the dominant economic and social psychological theories of marital dissolution.

Introduction

Motivated in part by dramatically rising divorce rates throughout the last century, to a level that implies that between one-half and two-thirds of recent marriages are expected to end in divorce (Martin & Bumpass, 1989), social scientists have expended considerable effort analysing the determinants of marital disruption. Most recent studies have gone beyond an elementary examination of the associations between marital disruption and basic characteristics of spouses, such as age at marriage, education, and income, to: (1) attempt to identify the components of economic status (such as time expenditure by women and type of work) that underlie the observed association with marital disruption (e.g. Spitze & South, 1985; Greenstein, 1990); (2) incorporate contextual influences (such as employment opportunities and the relative supply of males and females in the community) in models of separation and divorce (e.g. South & Lloyd, 1995; South & Spitze, 1986); and (3) examine the relation between events at different stages of the life cycle and marital disruption. Studies in the last group have concentrated on premarital cohabitation (e.g. Booth & Johnson, 1988; Lillard, Brien & Waite, 1995; Bennett, Blanc & Bloom, 1988) and premarital and postmarital childbearing (e.g. Waite & Lillard, 1991; Billy, Landale & McLaughlin, 1986). Growing interest in a life course perspective of marriage, combined with

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increased statistical sophistication in the analysis of event histories, has also led to a greater focus on the timing of divorce – that is, on the potentially changing relation between the factors described above and marital stability at different stages or durations of marriage (e.g. Booth *et al.*, 1986; South & Spitze, 1986; Heaton, Albrecht & Martin, 1985).

Although the study of marital dissolution has become more sophisticated over the past several decades, models of marital disruption have by and large ignored one potentially very important determinant, namely health. There are at least two reasons to believe that this omission is a serious one. First, as described in more detail below, economic, sociological and psychological theories of divorce imply that health-related variables are likely to be associated with marital stability. Second, a recent analysis demonstrated the importance of health-related variables in the process of mate selection (Fu & Goldman, 1996). In particular, individuals with physical traits that have been linked to poor health status (such as obesity) and individuals participating in unhealthy behaviours (such as excessive drinking or drug use) were found to experience lower age-specific marriage rates than their 'healthier' counterparts. Since theories of divorce imply that many of the factors that are hypothesized to influence marriage choice are also expected to affect the stability of marriage (e.g. Becker, Landes & Michael, 1977), Fu & Goldman's (1996) findings suggest that models of separation and divorce need to be broadened to incorporate health-related variables.

The inclusion of health-related variables in models of marital disruption is important not only from a social science perspective in which social scientists seek to gain a better understanding of the forces underlying marital disruption, but also from a demographic perspective in which researchers have spent decades attempting to explain the association between health status and marital status. Most explanations of the findings that divorced individuals are less healthy and have a shorter life expectancy than other marital groups (Hu & Goldman, 1990) have focused on the detrimental consequences of dealing with the break-up of a marriage rather than on whether unhealthy individuals are more likely to experience marital disruption. To the extent that the latter pathway – frequently referred to as selection – is an important one, demographers have been overstating the negative influence of marital disruption on health and exaggerating the benefits of marriage.

In order to assess the potential role of health-related selection in the marital dissolution process, as well as to gain a better understanding of the ways in which health-related characteristics may be related to separation or divorce, health needs to be conceptualized broadly. A definition of health that focuses only on the existence of specific (typically severe) health limitations is likely to miss some of the most prominent pathways through which health status can directly or indirectly be associated with marital status: for example, through physical appearance (such as obesity) or through various behaviours related to substance abuse. In this analysis, the same set of variables used in an earlier study of marriage choice is used (Fu & Goldman, 1996): drug use, alcohol consumption, smoking, criminal behaviour, short stature, obesity and health-related limitations. Each of these variables is known to be associated with current or future health status. It is acknowledged, however, that because of improvements in nutrition and reductions in infectious disease, the association between short stature and poor health is probably much weaker among young cohorts today

than among their elders. Criminal behaviour is included in this set of health-related variables because of its association with other health-related behaviours (such as substance abuse) and with poorer health status (Bartol & Bartol, 1986).

Given the diverse nature of these variables, their associations with marital dissolution are likely to arise from a variety of pathways, some of which may only tangentially involve physical health status at the time of separation. For example, the variables representing substance use and criminal behaviour are likely to influence marital relationships and ultimately marital stability through their strong associations with personality traits and other personal behaviours, rather than simply through their association with health status.

An essential aspect of the present study is its use of rich longitudinal data – the National Longitudinal Survey of Youth (NLSY) – which contains socioeconomic, demographic and health-related data gathered over a 15-year period (1979–93). A key feature of the analysis is that it relies on health-related variables defined prior to marriage, in order to ensure that these variables preceded – rather than resulted from – marital discord and subsequent disruption. The data would permit some updating of health-related information during the marriage, but two limitations of the NLSY render this approach problematic: (1) the absence of health-related information on a frequent (i.e. annual) basis; and (2) the absence of data on reasons for changes in health-related variables (e.g. to identify whether a person began drinking because of marital problems). Although the estimated associations between health-related variables and divorce are potentially weakened by not updating health information during the marriage, focusing on premarital information minimizes the potential confounding effects of marital tensions on health-related behaviours and characteristics.

Theoretical framework

Major theoretical perspectives

Theories of marital disruption have progressed little over the past two decades (White, 1990). The leading theories of divorce are based on some variant of cost-benefit analysis, in which the costs and benefits of the existing marriage are rationally assessed relative to alternative situations. In a frequently cited microeconomic analysis, Becker, Landes & Michael (1977) extend earlier work on marriage (Becker, 1974) to incorporate decisions about marital dissolution into a marriage market framework. In this framework, couples separate when the utility that they can expect from remaining married falls below the utility that they can expect from divorcing and possibly remarrying. Although seemingly inconsistent with the notion that persons marry when the utility expected from marriage is greater than that anticipated from the alternative (in this case, remaining single), Becker *et al.* (1977) stress that the majority of divorces result from uncertainty (e.g. individuals' uncertainty regarding themselves, their spouses, the nature of marital roles and alternative spouses) and imperfect information about marriage markets, factors which may lead to actual utilities falling short of the expected utilities associated with marriage, thereby increasing the risks of marital disruption. As described below, this framework has implications about the effects of many variables, such as age at marriage, education, income and number of children, on the likelihood of marital disruption.

A social psychological theory on marital dissolution is offered by Levinger (1965, 1976). Here, the marriage relationship is considered as a special case of a social group. Based on properties of group cohesiveness, the strength of the marital relationship is thought to be a function of: (1) the attractions within the marriage; (2) material, symbolic and affectional barriers to divorce; and (3) alternative relationships or situations, each with its own attractions and barriers. Although Levinger's perspective is couched in very different language from Becker's economic analysis, both theoretical frameworks make similar predictions with regard to the effects of demographic and socioeconomic factors on marital stability. For example, Becker and colleagues note that the accumulation of marital-specific capital (such as young children) reduces the likelihood of divorce since such capital is less valuable outside of the current marriage, while Levinger argues that, because of affectional barriers, couples with young children are more reluctant to sanction divorce. In addition, from the microeconomic perspective, differences in the traits of mates (such as different social background, race or religion) raise the risk of dissolution by lowering the gain from marriage (Becker *et al.*, 1977), while from the social psychological viewpoint, lack of social similarity reduces interpersonal attraction and adherence to the same social norms (Levinger, 1976).

Social integration theory has sometimes been invoked to explain some of the associations with divorce rates. For example, Glenn & Supancic (1984) speculate that lower levels of social integration within large cities and highly mobile areas result in fewer social controls and fewer barriers to marriage dissolution within the families and neighbourhoods of individuals living in such areas and consequently to lower levels of marital stability. Similar arguments have been put forward with regard to the deterring effect of religiosity and older ages at marriage on marital disruption (Glenn & Shelton, 1985; Glenn & Supancic, 1984).

Although not truly a theory of marital dissolution, a life course perspective (i.e. an examination of the sequence of roles and relationships associated with either the ageing of a cohort or the maturation of a marriage) has formed the basis for several studies of marital dissolution (e.g. Booth *et al.*, 1986; South & Spitze, 1986). Of particular relevance to the study of the relationship between health-related behaviours and marital dissolution is the notion of role incompatibility (Goode, 1960). Yamaguchi & Kandel (1985a) invoke this concept to refer to the conflict between the assumption of normative family roles (such as marriage and parenting) and using drugs, which is not part of a well-defined social role in early adulthood. Conflicts can be resolved either by terminating the conflicting behaviour or by leaving the social role (i.e. divorce).

Incorporating health into models of divorce

Neither the microeconomic nor the social psychological perspective explicitly examines the relation between health-related factors and marital dissolution, although Becker *et al.* (1977, p. 1161) note that persons experiencing changes in health status during marriage should be more likely to divorce. Nevertheless, both theories readily accommodate such variables. From the microeconomic perspective (Becker, 1974; Becker *et al.*, 1977), being in poor health, participating in behaviours associated with poor health (such as drug abuse) and being physically less attractive (e.g. being an

obese woman or a short man) should lower the expected gains from marriage and thereby increase the risk of marital dissolution.

As has been demonstrated by a large number of empirical studies, health-related variables may lower the expected gains from marriage by reducing both market and non-market productivity in a number of ways. For example, excessive drinking and drug use have been shown to result in reduced labour force participation and income, as well as in poor birth outcomes (Mullahy & Sindelar, 1991; McGinnis & Foege, 1993; Smith, 1991). Substance use, obesity and poor health status have each been shown to result in lower socioeconomic status or unstable employment later in marriage (Averett & Korenman, 1994; Booth & Johnson, 1988; Mensch & Kandel, 1988). In addition, illicit drug use has been shown to be a risk factor for premarital pregnancy (Mensch & Kandel, 1992), which, according to Becker and to several empirical studies, is associated with higher rates of marital disruption.

Becker's theory also implies that the increased uncertainty associated with expected marital gains among couples with unhealthy behaviours or characteristics should further increase the risks of marital dissolution. For example, substance abuse and participation in criminal activities may lead to unexpected changes in and lack of predictability of an individual's behaviour later in marriage (e.g. with regard to personality or ability to be productively employed), causing the marriage to fall short of expectations.

The social psychological perspective is less specific than the microeconomic one, but it appears to offer similar predictions in this case. In particular, since variables associated with poorer health status (such as drug use or obesity) would be likely to reduce the attractiveness of marriage (e.g. by reducing marital cohesiveness and interpersonal involvement) as well as to increase the attractiveness of alternative relationships, such variables would be expected to increase the risk of marital disruption.

With regard to the use of alcohol and drugs, these predictions are strengthened by psychological research which has demonstrated that substance abuse is associated with many personality factors, including potentially destructive personality problems, which may be antecedents or consequences of the substance abuse (Blackburn, 1993; Cox, 1985; Krogh, 1991; Rivers, 1994). For example, in an extensive review of the literature based on a variety of measurement scales, Cox (1985) concludes that substance abusers tend to disregard social customs, lack control and foresight, are less able to maintain long-term relationships, and have a need for unusual experiences; in addition, they are likely to suffer from various forms of distress including anxiety and depression. Although these findings are not always generalizable to substance users (as opposed to abusers), they strongly suggest that men and women who are heavy users of drugs, tobacco and alcohol face increased risks of marital discord and disruption. These increased risks may result from causal relationships between substance use and marital stability. However, they may also be the consequence of substance users having higher levels of nonconformity, including a lower commitment to the institution of marriage, or of having personality traits or problems that ultimately weaken the marital relationship.

The concept of role incompatibility, used by Yamaguchi & Kandel (1985a, 1985b) to study the association between family roles and marijuana use, also points to

increased risks of divorce resulting from substance use. Yamaguchi and Kandel argue that since marijuana use is not part of a well-defined role in adulthood, its use may lead to conflict with the assumption of the expected roles of adulthood, namely marriage and parenthood and, consequently, to lower marital stability for those who are married. This argument seems equally applicable to other illegal drugs, although it may be less appropriate for alcohol or smoking, since these may not be as clearly associated as drug use with certain youth subcultures.

Predictions of the association between physical characteristics and marital stability are less clear-cut than those between substance use and marital stability. Although both the microeconomic and social psychological perspectives are consistent with the notion that physical traits that are considered to be unattractive should result in higher rates of marital disruption, alternative predictions have been offered. In a study of the relation between obesity and marital quality, Sobal, Rauschenbach & Frongillo (1995) note that while the social norms model suggests that obese people have lower marital quality (since obesity is negatively valued in developed societies), the family function and the marital exchange models lead to different predictions. The former suggests no association between obesity and marital quality because an individual's obesity has come to serve a function within the existing family, while the latter theory indicates higher marital satisfaction among the obese who have developed lower expectations from marriage in recognition of their limitation. The empirical findings from Sobal's study indicate little consistent association between body weight and marital quality, a result which leads the authors to conclude that all three theoretical models are probably operating simultaneously with potentially cancelling effects on one another. These findings, together with contradictory results from prior clinical and non-clinical research relating body weight to marital quality (Sobal *et al.*, 1995), suggest that the associations between health-related physical characteristics (such as obesity and short stature) and marital stability may be more complicated than those predicted by the dominant theoretical perspectives on marital disruption.

Although existing theories pay little attention to potential differences in the association between health-related variables and divorce by gender, they do suggest that some types of substance use and criminal activities reflect less-normal behaviours among women than men. For example, Huselid & Cooper (1992) note that drinking and drunkenness are more socially acceptable among males since these behaviours are more compatible with traditional gender roles. Similarly, greater deviance is attached to female as compared with male criminality, because of its incompatibility with norms of female behaviour, such as sexual virtue and nurturance (Culliver, 1993). Although these gender differences may result in women showing stronger associations between health-related behaviours and divorce than men, they may not affect all types of behaviours. For example, Yamaguchi & Kandel (1985a) suggest that the role incompatibility associated with drug use leads to higher marital instability among both sexes.

Previous research

Demographic, socioeconomic and structural variables

A large number of studies, building mainly on the theories and perspectives described above, have demonstrated that many demographic, socioeconomic and

structural variables are substantially and significantly related to the likelihood of marital dissolution. However, while many findings have been consistent across the literature, there has been a surprising lack of consensus in several important domains. A brief review is presented below.

There is general agreement across diverse studies that marital stability is positively associated with age at marriage, educational attainment, home ownership and other family assets, (husband's or family) income, growing up in the South and active religious participation. In contrast, lower levels of marital stability have typically been found for premarital cohabitation, premarital pregnancy, economic hardships, interfaith marriages, residence in large metropolitan areas, residence in regions with high levels of residential mobility, growing up in a disrupted family, availability of spousal alternatives in the community and being African-American (see, for example, Booth *et al.*, 1986; Bumpass & Sweet, 1972; Glenn & Shelton, 1985; White, 1990; South & Spitze, 1986).

Findings with regard to women's labour force participation and the presence of children in the marriage are less clear-cut. Some of the inconsistent findings with regard to the effect of women's employment on marital stability apparently can be accounted for by varying and potentially counteracting effects of different components of wives' labour force participation. In particular, the number of hours that wives work seems to have a disruptive influence on marital stability (Greenstein, 1990; Spitze & South, 1985), but the effects of other aspects of female employment, such as earnings and occupational status, remain ambiguous (White, 1990).

While both economic and sociological theories predict that the presence of children decreases the likelihood of marital disruption, findings in this area are also equivocal (e.g. South & Spitze, 1986). The association between children and marital disruption is confounded by potentially different effects of number of children, sex and ages of children and timing of births relative to marriage (Waite & Lillard, 1991). For example, Waite & Lillard (1991) find that young children born within marriage generally increase the stability of marriage, in contrast to older children and children born before marriage.

Although virtually all studies indicate that the risks of marital disruption decline with increasing marital duration, there is considerable disagreement about the degree to which the determinants of marital disruption vary with marriage duration. A variety of arguments have been put forward suggesting that although some determinants of marital dissolution should remain important throughout marriage, others should exert less influence as marriages mature (South & Spitze, 1986; Booth *et al.*, 1986; Heaton *et al.*, 1985). For example, South & Spitze (1986) speculate that at higher marriage durations, when individuals are more mature and have adjusted to marital life, variables representing individuals' preparation for marriage (such as age at marriage and education) and variables reflecting investments in the current marriage (children and home ownership) should have smaller effects than at early durations; on the other hand, they predict that external economic and marriage market forces (such as labour force activity) should become more important at later durations. The findings, however, are contradictory. For example, South & Spitze (1986) and Heaton *et al.* (1985) find little evidence that covariates change in importance over the duration of a marriage, whereas Booth *et al.* (1986) conclude that several important determinants of

divorce interact with marital duration. This lack of definitive results argues for a continued need for models of marital disruption to accommodate duration-specific variation.

Health-related variables

While previous research has paid little attention to assessing the effects of health-related factors in general on marital stability, several studies have examined the consequences of substance use, and a few very recent studies in the US and Western Europe have investigated the effects of psychological or physical well-being. In addition, as noted above, a considerable body of research has focused on the relationship between obesity and marital quality and stability.

Two studies based on the NLSY conclude that drug use results in lower marital stability: Yamaguchi & Kandel (1985a) note that marijuana use increases the likelihood of marital disruption for both genders, while the use of other illicit drugs has no effect. Kaestner (1993) finds an increased propensity to divorce among marijuana users as well as among female users of cocaine. Contradictory findings emerge from a descriptive analysis based on high-school cohorts in which Bachman *et al.* (1995) conclude that higher rates of cigarette smoking – but not of cocaine use, marijuana use, or drinking – are predictive of divorce. In a non-statistical analysis of divorce (Albrecht, Bahr & Goodman, 1983), alcohol was among the ten most important reasons that respondents mentioned for the failure of their marriage.

Previous research also suggests that poor health status is associated with higher rates of marital disruption. Mastekaasa's (1994) study in Norway indicates a strong relation between low levels of psychological well-being and subsequent risks of marital dissolution, although, as she notes, her study cannot rule out the possibility that marital tensions lead to both low well-being and high risks of separation. Both Waldron, Hughes & Brooks (1996), using data from the National Longitudinal Survey of Young Women in the US and Joung (1996), based on data from the Netherlands, find that lower levels of physical health are significantly associated with higher probabilities of marital dissolution. Health was measured by a scale of functional disabilities and psychosomatic symptoms in the former study and by the number of chronic conditions in the latter. In a longitudinal national survey of married adults, Booth & Johnson (1994) confirm findings from earlier research that declines in health lead to lower marital quality; however, in this study, declines in the spouse's health status had a greater impact than declines in the respondent's health on marital happiness and divorce proneness.

Hypotheses

This study hypothesizes that, in general, premarital variables that are associated with negative health status are also associated with higher risks of marital disruption. Specifically, in line with various theories presented above, it is speculated that individuals in poor health, as well as those engaging in substance use and criminal behaviour, are likely to have higher risks of marital dissolution than their healthier and law-abiding counterparts. It is also hypothesized that some of these effects (such as those for drinking and criminal behaviour) will be larger for women than men.

Although the established associations between substance use and potentially destructive personality traits and behaviours suggest that the effects of substance use (and perhaps criminal behaviour) on marital stability are apt to persist throughout marriage, the focus in this study on premarital health-related behaviours is likely to result in reduced effects of these variables at higher marriage durations. In particular, given that individuals may alter their use of substances (and criminal behaviour) as they and their marriages mature, these premarital variables are less likely to reflect current behaviour at higher marital durations. This implied pattern of diminished effects at later stages of marriage is likely to be reinforced by selective dissolution of the most volatile marriages in the early years of marriage.

Given the contradictory theories (and empirical evidence) regarding the association between obesity and marital quality, it is hypothesized that the negative associations between unattractive physical characteristics (in this case, short stature among men and obesity) and marital disruption are likely to be smaller than those associated with substance use. They are also likely to wane as the marriage progresses for the reasons noted above and because spouses are apt to adjust over time to their partners' physical traits.

Data

Data for this analysis come from the National Longitudinal Survey of Youth, 1979–93, which has been following a cohort of nationally representative, non-institutionalized young men and women who were aged 14 to 22 years when first interviewed in 1979. The retention rate for the NLSY has been relatively high: about 90% for both males and females after 14 years of follow-up (Center for Human Resource Research, 1994).

Although originally designed as a study of labour market experiences of young people, the NLSY contains extensive information on family background, household composition, educational status, marital history, fertility, health limitations, income and assets and geographic residence. Data on most of these topics were collected at the baseline survey in 1979 and at each annual interview. In addition, the NLSY contains information on health-related variables not typically collected in other large-scale surveys. These questions, added to the survey for selected years after baseline, pertain to smoking (1984 and 1992), drug use (1984, 1988 and 1992), alcohol consumption (1982–85, 1988, 1989 and 1992), delinquency (1980), height (1981, 1982 and 1985) and weight (1981, 1982, 1985, 1986 and 1988–93). These variables pertain only to the individual respondent, and not his or her spouse. With the exception of the few married couples included in the NLSY, the only health-related information available for spouses relates to the effect of the spouse's health on the respondent's work (collected in 1982). Minimal information is available on the socioeconomic status of the spouse and the household.

Because numerous studies have indicated that respondents may not acknowledge antisocial and illicit behaviours to an interviewer, the results are potentially affected by misreporting. Among these behaviours, drug use and drug dealing seem to be the most problematic with regard to reporting (Crowley, 1982). Evaluations of the quality of NLSY data on illicit behaviours provide inconclusive results about the extent of error (Crowley, 1982; Mensch & Kandel, 1992; Sickles & Taubman, 1991). An earlier

analysis of the quality of drug use information in the 1988 NSLY interview did not uncover any substantial problems (Fu & Goldman, 1996). However, it is important to recognize that, to the extent that respondents fail to acknowledge these behaviours, the estimated effects of health-related variables on marital disruption are likely to underestimate the true ones.

The sample for the analysis presented here consists of non-Hispanic and non-black civilian respondents in the NLSY who married for the first time during the period 1981–93. Exclusion of minority groups results from concerns about data quality (Mensch & Kandel, 1988), as well as from recognition that marriage and divorce behaviour varies considerably by race and ethnicity and that sample sizes do not permit sufficiently precise estimation of this variation (Espenshade, 1985; Cherlin, 1992). Exclusion of the military subsample is based on findings that people in the military services generally face different marriage opportunities and more constrained life styles than their civilian counterparts (Cooney & Hogan, 1991; Lichter *et al.*, 1992). Finally, elimination of respondents whose first marriage preceded 1981 is necessitated by lack of information on premarital health variables for these individuals. Although this exclusion selectively eliminates younger ages at marriage from the sample (thereby affecting more female than male marriages), marriages as young as 16 are included in the sample; in addition, all models include controls for age at marriage and are estimated separately by gender. The resulting sample includes a total of 3087 first marriages, 1471 among females and 1612 among males, with mean ages at marriage of 24.5 and 25.1 for women and men respectively. Among these marriages, 348 and 377 resulted in marital separation among women and men respectively during the first 12 years of marriage (the highest marital duration that can be included in the present study), while 251 and 260 respectively terminated in divorce.

Because marital separation does not necessarily lead to divorce and because the legal process associated with divorce sometimes results in large variations in the interval between separation and divorce, separate models were estimated for these two marital outcomes. However, given the similarity of results for the separation and divorce models, only the latter estimates are presented in this paper.

Statistical methods

Statistical models

The analysis presented below is based upon event history analysis, a frequently used set of statistical procedures for examining the relationships between individual characteristics and outcomes as they evolve over the life course. These procedures are ideally suited to accommodate right censoring of exposure to the risk of marital dissolution for marriages which are still intact at the end of the follow-up period.

The models estimated here are non-parametric hazard models, which permit the approximation of the baseline risk of marital dissolution without imposing rigid parametric forms. To obtain a parsimonious parameterization of the baseline hazard function, as well as a smooth fit, a piecewise polynomial known as a natural cubic spline was used (Westoff & Rodriguez, 1993). Both proportional hazard models, which are based on the assumption that the effect of each covariate on the risk of marital dissolution is constant across duration intervals, and non-proportional ones were

considered. The latter permit the testing of the hypotheses related to the duration dependence of health-related and other covariates on marital stability. Both fixed and time-varying covariates are included in the model. The former generally denote variables that do not change through young adulthood (e.g. parents' education), but also include variables (such as criminal behaviour) for which information was collected only once in the NLSY. Variables in the second category were updated at varying intervals, depending on data availability. For example, information on education and occupation was collected annually. The hazard models were estimated with the Poisson regression routines in the statistical package STATA (Stata Corporation, 1993).

Measures of health-related variables

Based on data contained in the successive waves of the NLSY, the following health-related variables pertaining to the most recent period prior to the respondent's first marriage were constructed: height and weight; health limitations; substance use behaviours (including smoking, alcohol consumption, and drug use); and criminal behaviour. The nature of each of these variables is summarized below.

Height and weight. Each individual was classified by his/her height relative to the mean of the study population at each age based on calculated standardized normal scores (z -scores). Five categories were defined: (1) very short ($z < -2$); (2) short ($-2 \leq z < -1$); (3) average ($-1 \leq z \leq +1$); (4) tall ($+1 < z \leq +2$); and (5) very tall ($z > +2$). The weight variable is a categorized version of the Body Mass Index (BMI, which is weight in kilograms divided by the square of height in metres), a composite measure that combines both height and weight to assess the amount of body fat. Following Averett & Korenman (1994), four categories of the BMI were used: (1) recommended weight (BMI = 19–23 for females and 20–24 for males); (2) underweight (BMI < 19 for females and < 20 for males); (3) overweight (BMI = 24–29 for females and 25–29 for males); and (4) obese (BMI ≥ 30 for both females and males).

Health limitations. In each wave of the NLSY, unemployed respondents were asked whether they have any health limitations that prevent them from working, and employed respondents were asked whether they have any health problems that limit the kind or amount of work that they can perform. In early waves of the survey, respondents were also asked to list two or three conditions that caused their health problems. These data, together with a classification scheme devised by Gortmaker *et al.* (1993) to identify chronic limitations, were used to construct a variable with three categories: (1) no health limitation; (2) non-chronic limitation; and (3) chronic limitation. There are at least two important weaknesses of this variable that should be borne in mind. First, since the NLSY is restricted to the non-institutional population, some of the most serious health problems are not represented in this sample. Second, and more importantly, health limitations as defined in the NLSY are related to employment and, as such, are likely to depend on the nature of the respondent's occupation (Fu & Goldman, 1996).

Substance use. Three separate 'substance use' variables were constructed: smoking, alcohol consumption and drug use.

The smoking variable refers to whether an individual had ever been a daily smoker

at some time prior to first marriage and is derived from information in the 1992 interview on the age at which the respondent became a daily smoker. In addition to the two categories 'not a daily smoker' and 'a daily smoker', this variable also contains a third category of 'no response' that includes persons not interviewed or those who provided inadequate information in 1992.

The drug use variable was constructed by combining information on age at first use of marijuana and hard drugs (amphetamines, stimulants, barbiturates, sedatives, tranquilizers, psychedelics, cocaine, heroin, narcotics and inhalants). Among hard drugs, cocaine (either crack or non-crack cocaine) and heroin are further distinguished from other hard drugs. The resulting variable contains five categories: (1) never used any drug; (2) used marijuana only; (3) used some hard drug other than cocaine and heroin; (4) used cocaine and/or heroin (possibly with additional drugs); and (5) no response.

Alcohol consumption information was updated more frequently than data on smoking and drug use and was based on a series of questions regarding age at regular consumption and intensity and frequency of drinking. Adopting a classification developed by Abma (1991) for analysing alcohol consumption information from the NLSY, an index of alcohol consumption was generated by identifying, at each age, whether an individual had ever become a 'regular' drinker, in contrast to persons who never tried any alcohol or who reported themselves to be light drinkers. Regular drinkers who had been drinking recently (in the 30 days prior to the survey) but moderately were distinguished from regular, heavy drinkers. For exposure which occurred prior to the 1982 survey (the year in which drinking frequency data were first collected), regular drinkers were classified into a category that indicated the absence of intensity information. Thus, the alcohol variable consists of the following categories of exposure: (1) never consumed alcohol/light drinker; (2) regular drinker but no intensity information; (3) moderate, regular drinker; (4) heavy, regular drinker; and (5) no response.

Criminal activity. On the basis of a set of questions from the 1980 survey determining lifetime involvement with the criminal justice system, the variable 'criminal record' was defined, which categorizes respondents according to those who: (1) have never been arrested/charged/convicted; (2) have been arrested but not charged/convicted; (3) have been charged but not convicted; (4) have been convicted; and (5) no response. This variable essentially measures criminal behaviour prior to the time of the baseline survey since these data were never updated in subsequent waves of the NLSY.

Definition of other variables

In addition to health-related variables, a number of socioeconomic and demographic variables which previous studies have identified as potentially important determinants of marital dissolution are also included in the models. Some of these variables are introduced as fixed covariates in the analysis as they reflect conditions and events that a respondent experienced prior to marriage, such as childhood family structure, religion in which the individual was raised, age at first marriage, cohabitation status, and timing of first child relative to the timing of first marriage. Variables

reflecting attitudes towards family roles, self-esteem and frequency of religious activities are also treated as fixed due to the absence of follow-up data on most of the relevant variables. Variables that are treated as time-varying include: (1) socioeconomic factors such as educational attainment, housing tenure, number of own children, household poverty status, employment status and occupation; and (2) residential characteristics such as region, urban/rural residence and centre-city residence within an SMSA.

Analytical strategy

A set of three nested hazard models were estimated in order to assess the association of health-related behaviours with the risks of marital disruption: (1) net of the influence of other health-related variables (Model I); (2) net of the impact of other health-related variables as well as socioeconomic factors that have been frequently studied in the divorce literature (Model II); and (3) in the presence of interaction terms that permit health-related and socioeconomic variables to have different impacts at early and at later marriage durations (Model III). The gross effects of each health-related variable are not presented because of the high correlations between some of these variables. For example, previous analyses as well as the present study's tabulations from the NLSY reveal substantial correlations between different types of substance use and between drug use and criminal behaviour (Kandel, 1975; Gill & Michaels, 1991; Willard & Scheonborn, 1995).

In the absence of data on spousal characteristics, it is not possible to estimate a model of divorce that incorporates characteristics of both the husband and wife. This limitation unfortunately characterizes the majority of statistical analyses of divorce, because most of the relevant survey data are based on individual respondents rather than on couples. As a result, this analysis relies on separate models for men and women, which include joint characteristics of the couple (such as income and assets) along with characteristics of the respondent.

Coefficient estimates for the risk of divorce for female and male respondents are shown in Table 1. Because the models describe the logarithm of the hazard rates as a linear function of the covariates, the coefficients must be exponentiated to yield the multiplicative effects of a given covariate on the divorce rate (relative to the omitted category for that variable). As noted earlier, corresponding models were estimated for the risk of separation, but, given the overall similarity of results, only the results for divorce are presented. To minimize the consequences of carrying out *z*-tests for a large number of coefficients, the discussion is focused on variables (most of which consist of several categories) which significantly improve the fit of the model, as demonstrated by the chi-square tests ($p < 0.05$) shown in Table 1.

Results

Effects of health-related variables

The health limitation variable was not significantly related to the risk of separation or divorce, for either gender in any of the three models. This variable was dropped from the model (and is not shown in Table 1). The health limitation variable also failed to reveal any significant association with the risk of first marriage (Fu & Goldman,

Table 1. Estimated coefficients^a (z-statistics in parentheses)^b for multivariate hazard models of divorce: NLSY (1981–1993)

Explanatory variables	Model I ^c		Model II ^d		Model III ^e	
	Female	Male	Female	Male	Female	Male
Health-related variables						
Weight						
Recommended						
Underweight	0.1158 (0.676)	0.3969 (1.864)	-0.0343 (0.196)	0.3544 (1.611)	-0.2632 (1.383)	0.0867 (0.372)
Overweight	0.0546 (0.337)	-0.0183 (0.131)	0.0282 (0.169)	0.0895 (0.626)	0.0423 (0.243)	0.1724 (1.140)
Obese	-0.0971 (0.264)	0.1216 (0.383)	-0.0780 (0.206)	0.4879 (1.505)	0.0415 (0.107)	0.7035 (2.105)*
χ^2 (3) ^f	0.62	3.93	0.14	4.38	2.30	4.98
Height						
Average						
Tall	0.0866 (0.431)	-0.0595 (0.317)	0.1295 (0.633)	0.0180 (0.093)	0.2186 (1.010)	-0.1548 (0.744)
Very tall	0.4937 (1.804)	0.9928 (2.704)**	0.3035 (1.080)	1.0142 (2.638)**	0.3589 (1.201)	1.1403 (2.660)**
Short	-0.0068 (0.039)	-0.0582 (0.256)	-0.0672 (0.376)	0.0371 (0.159)	-0.2001 (1.073)	0.0565 (0.232)
Very short	0.2170 (0.585)	-0.7487 (1.050)	-0.1604 (0.418)	-0.5567 (0.769)	0.1235 (0.313)	-0.0166 (0.023)
χ^2 (4)	3.64	8.91	2.01	7.70	4.11	7.95
Alcohol consumption ^g						
Never/light						
Regular but no intensity info.	-0.0040 (0.017)	-0.1680 (0.924)	0.1721 (0.694)	-0.0380 (0.199)	0.0526 (0.208)	-0.5426 (1.912)
Moderate	0.2101 (1.268)	-0.5611 (2.574)**	0.3186 (1.855)	-0.6817 (3.036)**	0.4088 (2.305)*	0.2957 (0.952)
Heavy	0.1277 (0.647)	0.2859 (1.794)	0.1931 (0.952)	-0.3279 (2.021)*	0.2498 (1.153)	-0.3840 (1.582)
χ^2 (4)	1.99	8.27	3.94	11.58*	5.93	6.92
Smoking behaviour ^g						
Never a daily smoker						
Ever a daily smoker	0.4373 (2.717)**	0.6509 (4.174)**	0.4110 (2.453)*	0.4893 (3.023)**	0.3803 (2.137)*	0.3179 (1.860)
χ^2 (2)	7.43*	18.12**	6.52*	9.42**	9.70**	3.48

Drug use ^e									
Never									
Ever, marijuana only	0.2582 (1.142)	0.3481 (1.438)	0.3987 (1.728)	0.3428 (1.381)	1.6226 (4.040)**	1.6513 (3.994)**			
Ever, hard drugs [not cocaine/heroin]	0.0503 (0.165)	0.7580 (2.424)*	0.0386 (0.123)	0.8039 (2.494)*	0.6721 (1.312)	1.7599 (3.740)**			
Ever, hard drugs [inc. cocaine/heroin]	0.4045 (1.710)	0.5563 (2.320)*	0.4805 (1.917)	0.6215 (2.493)*	1.5423 (3.901)**	1.2830 (3.261)**			
χ^2 (4)	5.43	11.02*	6.31	14.44**	20.69**	20.61			
Criminal records ^e									
None									
Arrested	0.4801 (2.291)*	-0.0241 (0.142)	0.4327 (1.997)*	-0.0470 (0.268)	0.4487 (2.003)*	0.0536 (0.282)			
Charged	0.8663 (2.890)**	-0.0665 (0.275)	0.8306 (2.629)**	-0.2316 (0.908)	0.4433 (1.318)	-0.4426 (1.524)			
Convicted	0.7152 (1.929)	0.0381 (0.173)	-0.0108 (0.027)	-0.0504 (0.220)	0.6063 (1.502)	-0.1890 (0.787)			
χ^2 (4)	14.90**	0.49	10.15*	2.06	7.30	3.19			
Socioeconomic and demographic variables									
Age at marriage									
≤ 19									
20–21									
22–25									
26 +									
χ^2 (3)			8.62*	14.37**	58.37**	47.01			
Family structure at age 14									
With both biological parents									
With 1 biological/1 step parent									
With 1 biological parent									
Other arrangement									
χ^2 (3)			7.80*	0.44	9.39*	3.70			

Table 1. Continued

Explanatory variables	Model I ^c		Model II ^d		Model III ^e	
	Female	Male	Female	Male	Female	Male
Educational attainment						
< 12						
12			0.7641 (3.243)**	-0.2417 (1.394)	1.0076 (2.681)**	-0.1031 (0.565)
13-16			0.4176 (1.556)	-0.6011 (2.833)**	1.3935 (3.283)**	-0.4712 (2.177)*
> 16			0.4380 (1.047)	-0.6293 (1.796)	0.8579 (1.174)	-0.4318 (1.171)
χ^2 (3)			14.13**	8.95*	11.17*	6.37
Cohabitation before marriage ^e						
No						
Yes, at time of marriage			0.1148 (0.706)	0.2329 (1.358)	0.1355 (0.794)	-0.1694 (0.729)
Yes, not at time of marriage			0.3321 (1.266)	0.7205 (2.569)**	-0.2960 (1.068)	0.6932 (1.708)
χ^2 (3)			1.78	9.39*	2.53	6.02
Timing of first child ^e						
No child						
Prior to marriage			0.8213 (3.718)**	0.2822 (1.123)	0.5539 (2.470)*	0.0958 (0.365)
Within 1st 9 months of marriage			0.4479 (1.644)	0.2505 (0.997)	0.1876 (0.650)	0.3178 (1.195)
After 9 months of marriage			0.4911 (0.925)	0.4922 (1.036)	0.1310 (0.229)	0.1831 (0.318)
χ^2 (4)			14.81**	2.91	6.61	1.65
Number of own children						
None						
1			-0.7542 (4.339)**	-1.4321 (7.269)**	-0.7467 (4.189)**	-1.1324 (6.592)**
2+			-1.2151 (5.313)**	-1.4102 (6.066)**	-1.1597 (5.057)**	-1.3451 (5.699)**
χ^2 (2)			32.21**	72.32**	29.59**	60.80**

Household poverty status ^g					
Not in poverty					
In poverty	1.1396 (5.858)**	-0.1146 (0.456)	0.9216 (4.451)**	0.1015 (0.386)	
χ^2 (2)	34.51	0.47	20.18**	0.32	
Housing tenure ^g					
Not own					
Own	-0.7237 (4.361)**	-0.7691 (4.392)**	-0.8024 (4.705)**	0.1427 (0.610)	
χ^2 (2)	22.25**	19.79**	27.46**	6.09*	
Region of current residence					
North-East					
North-Central	0.6249 (2.862)**	0.4047 (1.742)	1.8560 (4.421)**	1.6126 (4.273)**	
South	0.8149 (3.772)**	0.8523 (3.872)**	1.8504 (4.470)**	2.0366 (5.650)**	
West	0.7974 (3.456)**	0.6026 (2.551)*	1.5848 (3.630)**	1.5065 (3.960)**	
χ^2 (3)	16.07**	18.10**	21.67**	32.68**	
Whether living in SMSA					
Not in SMSA					
In SMSA not centre city	0.1971 (1.118)	-0.0656 (0.391)	0.3051 (1.623)	-0.1683 (0.951)	
In centre city of SMSA	0.1363 (0.554)	0.2426 (1.081)	0.4003 (1.560)	0.3564 (1.538)	
Don't know whether centre city	-0.1533 (0.801)	-0.0537 (0.309)	0.0842 (0.422)	-0.0898 (0.490)	
χ^2 (3)	4.71	2.26	4.15	5.73	
Interactions					
Alcohol consumption ^g					
Duration* [never/light]					0.8146 (2.015)*
Duration* [regular but no intensity info.]					-1.1374 (2.398)*
Duration* [moderate]					0.0993 (0.285)
Duration* [heavy]					12.41**
χ^2 (4)					

Table 1. Continued

Explanatory variables	Model I ^c		Model II ^d		Model III ^e	
	Female	Male	Female	Male	Female	Male
Drug use ^f						
Duration* [never]						
Duration* [ever, marij. only]					-1.6690 (3.630)**	-1.9246 (3.968)**
Duration* [ever, hard (no coc./hero.)]					-0.9068 (1.459)	-1.8896 (2.957)**
Duration* [ever, hard (incl. coc./hero.)]					-1.4276 (3.229)**	-1.4543 (3.228)**
χ^2 (4)					14.77**	20.07**
Age at marriage						
Duration* [< 19]						
Duration* [20-21]					-1.2605 (2.877)**	-1.6169 (3.488)**
Duration* [22-25]					-1.0327 (2.399)*	-1.2116 (2.858)**
Duration* [26+]					1.0249 (1.852)	-0.1654 (0.316)
χ^2 (3)					31.83**	18.18**
Educational attainment						
Duration* [< 12]						
Duration* [12]					-1.0068 (2.364)*	
Duration* [13-16]					-1.5778 (3.244)**	
Duration* [> 16]					-0.7703 (0.915)	
χ^2 (3)					10.98*	
Cohabitation before marriage ^g						
Duration* [no]						
Duration* [yes, at time of marriage]						0.7480 (2.168)*

1996). The absence of significant findings most likely results both from the relatively small sample of persons with limitations and from the inadequacies of this measure of health status, particularly its restriction to limitations affecting employment status.

The chi-square statistics for height and weight shown in Table 1 indicate that neither physical characteristic is significantly related to the risk of divorce (although the *z*-statistics suggest that very tall men have almost 2.7 [$\exp(0.9928)$] times the rate of divorce of average height men). Thus, there is no evidence that obesity among women or short stature among men lead to higher rates of marital dissolution, although these same factors result in lower rates of first marriage (Fu & Goldman, 1996).

The estimates also indicate that smoking is associated with increased rates of divorce for both men and women, with particularly strong effects apparent for men. For example, males who had been daily smokers at the time of or prior to their marriage experience a risk of divorce that is almost double that of their counterparts who never smoked on a daily basis. Use of hard drugs is also associated with significantly higher rates of divorce among men (but not women), with a divorce rate between 1.7 and 2.1 times as high as that of never users, depending on the type of drug.

In contrast to drug use, the variable denoting alcohol consumption does not show a significant association with divorce for either gender. The variable denoting criminal records, on the other hand, is significantly related to the divorce rate among women (but not men), with women who have been arrested, charged or convicted experiencing substantially higher marital dissolution rates than those without any criminal record (although only the coefficients for the first two categories are significantly different from zero).

The results for Model II, which includes socioeconomic and demographic covariates, are similar to those from Model I for the health variables. The most noteworthy difference is the negative coefficients (i.e. lower divorce rates) associated with moderate and heavy male drinkers. In general, although the socioeconomic and demographic factors have important associations with divorce (as summarized below), they seem to have a relatively small impact on the association between health-related behaviours and marital disruption.

Socioeconomic and demographic factors

The estimates for Model II confirm many important associations with divorce that have been noted previously, such as the higher risks associated with younger ages at marriage, not owning a home, and not having any children; higher risks were also associated with living in the south or west of the US, although the variable denoting urban/rural residence (not shown) was not significantly related to the risk of marital disruption. The estimates also highlight the importance of gender variation. For example, premarital cohabitation is significantly related to the risk of divorce only for men, whereas premarital childbearing is significantly related to the risk of divorce only for women.

As in earlier studies, socioeconomic variables suggest complicated associations with marital stability. Household poverty status shows the expected association with higher marital disruption (the anomalous finding that the association is significant only among women is most likely due to the omission of spousal characteristics from these models).

Employment status and occupation were not significantly related to marital disruption for either gender and were not included in the models in Table 1. Education level reveals a non-linear relationship with divorce for women (with the highest risks experienced by women with a high school diploma) but a monotonically decreasing risk for men.

Contrary to findings from some earlier studies, variables reflecting attitudes towards family roles, self-esteem, religious orientation and frequency of attending religious services were not significantly related to the risk of divorce or separation for either gender and were consequently dropped from the models.

Variations by duration of marriage

Model III allows for non-proportional effects by including interactions between duration of marriage and the predictor variables. In these interactions, duration of marriage is modelled as a dichotomous variable that assumes the value one for durations greater than 4 years; the value of 4 years was chosen because the risk of divorce increases substantially between 3 and 4 years of marriage for both sexes. For the sake of parsimony, only those interaction terms that significantly improved the fit of the model (at a 5% level) were retained.

The results for the health variables, based on the chi-square statistics for the main effects and interaction terms, continue to reveal that drug use and smoking are associated with higher rates of divorce (although the smoking variable falls just short of statistical significance for men in Model III), and that alcohol consumption among men is associated with divorce. The variables reflecting physical characteristics remain insignificant, and that for criminal records among women loses its significance (although the coefficients remain substantial).

The interaction terms suggest a fairly diverse set of effects by marriage duration. With regard to the health variables, drug use reveals the hypothesized pattern by marital duration. For both men and women, users have substantially higher divorce rates than never users in the first few years of marriage (e.g. between three and six times as high among men, depending on the type of drug), but there is virtually no difference in the risk of divorce by drug use status at the higher durations. The only other health-related variable to reveal significant variation by marriage duration is alcohol use (among men) but here the pattern differs from the one predicted. The considerable lower divorce risks experienced by moderate drinkers (as compared with their more abstemious counterparts) are apparent only at higher marriage durations.

The socioeconomic and demographic effects also reveal some important and complex interactions with the length of marriage. For example, male and female residents of the North-East are much less likely to get divorced at early durations than other US residents, but the regional differences are greatly attenuated at higher marital durations. By contrast, the differentials regarding housing tenure among men become more rather than less apparent at higher durations: the reduction in divorce associated with home ownership occurs only at later durations, perhaps because of the relatively greater financial investment at this stage of the marriage. In general, the existence of several important interaction terms highlights the need for theories and models of marital disruption to accommodate variations in the divorce process at different

durations. While some social scientists have recognized the potential significance of such duration effects, others have argued that the determinants of divorce are essentially time invariant.

Discussion

In an effort to enhance existing models of divorce, as well as to begin to understand the role of selection in producing health differences by marital status, the present analysis investigates the link between unhealthy behaviours and characteristics prior to marriage and the subsequent risks of divorce. This analysis improves upon many previous investigations of the divorce process, not only by including health-related variables, but also by incorporating a broader set of predictor variables, employing a model that permits the effects of these predictors to vary by marriage duration, choosing an analytical strategy that avoids potential 'reverse causality' (i.e. effects of marital discord on health-related behaviours) and using high-quality longitudinal data.

The results support some, but not all, of the study's hypotheses. As predicted, drug use and smoking (and criminal behaviour among women in some of the models) are associated with higher risks of divorce; the association between drug use and divorce is extremely high in the first few years of marriage among both men and women, but is considerably lower thereafter. The effects of short stature and obesity on the risk of divorce are considerably smaller (indeed, they are not significantly different from zero) than those associated with substance use and criminal behaviour.

An unanticipated finding is the negative association between alcohol consumption and divorce among men, particularly notable among moderate drinkers at higher durations of marriage, and the absence of any positive association with divorce among heavy drinkers. One possible explanation for the latter finding is that men and women who drink heavily prior to marriage may reduce their drinking subsequent to matrimony. Although a similar explanation could be offered for each of the behaviours analysed here, a recent study has found evidence that individuals moderate their alcohol intake just prior to and during the early years of marriage (Miller-Tutzauer, Leonard & Windle, 1991). The large negative association apparent for moderate drinkers is even more puzzling and requires further exploration.

The gender difference regarding criminal behaviour suggests that having a criminal record leads to greater marital discord only if it is the wife who participated in such behaviour. As hypothesized, this result may reflect the greater deviance that society attaches to female criminality. It may also result from a greater association of female (as compared with male) criminality with drug use and prostitution (Culliver, 1993), behaviours which in themselves are probably risk factors for divorce. While the absence of any significant association between health limitations and divorce is also contrary to the study's hypothesis and to findings from some recent studies, this result is almost certainly due to the inadequacies of the NLSY data pertaining to health problems. Indeed, the present study could be substantially improved by the incorporation of variables that measure both physical and mental disabilities and illnesses, data which unfortunately are not available from the NLSY.

The present findings also suggest that the effects of health-related variables on the risk of marital dissolution differ substantially from their effects on the risk of marriage.

(An exception is drug use, which is strongly associated with both lower rates of marriage and higher rates of marriage dissolution.) In particular, physical attributes (obesity and short stature), which are strong predictors of marriage rates, reveal little association with separation and divorce. In addition, smoking, which has little association with the risk of first marriage, is strongly related to higher rates of divorce, and alcohol consumption, which is associated with lower rates of marriage, is associated with lower rather than higher rates of divorce (among moderate drinkers). These results point to weaknesses in the dominant theories of marriage and marital dissolution, such as the microeconomic theories proposed by Becker and colleagues, which typically postulate that factors which render a potential spouse less attractive in the marriage market also enhance the likelihood that a resulting marriage will terminate. Indeed, this study highlights the need for theoretical developments in sociological and economic perspectives on divorce (1) to accommodate health status, non-normative behaviours and associated personality characteristics; and (2) to recognize that the importance of certain characteristics in the marital relationship may change over time (even in the absence of changes in these characteristics) as spouses adapt to one another's traits and habits or as they fail to do so and marital conflicts intensify.

In the past, social scientists have concentrated on modelling the effects of social, economic and demographic covariates on marital dissolution while virtually ignoring the effects of health status, physical characteristics and behaviours related to substance use and delinquency. These results indicate that, even when health-related variables are measured premaritally, they reveal significant associations with marital dissolution. This finding highlights the importance of incorporating health into models of divorce and suggests that some of the excess mortality and health problems identified among divorced persons may result from a health-related selection process out of marriage. What is not clear from these models, however, is whether these relationships result causally from the unhealthy behaviours – for example, the act of smoking or using drugs causes marital friction or lack of communication between spouses – or whether the underlying mechanisms result from unobserved personality characteristics – that is, people who participate in illegal or antisocial behaviours have personality problems or higher levels of non-conformity, characteristics which are associated with poorer quality marriages and higher marital instability. Much more detailed data than currently available on the timing of life history events and on reasons underlying changes in behaviour for both spouses are needed to identify the pathways underlying the observed associations between health-related variables and marital dissolution.

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