

## **Black-White Differences in Health and Mortality Among the Older Divorced**

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**Abstract:** Past research has shown that for the overall population, divorce appears to have less deleterious consequences on the health and mortality of blacks compared to their white counterparts. However, the effects on younger respondents will dominate research that contains all age groups. In contrast, extant research on the older divorced population suggests that in comparison to whites, divorce may be worse for blacks. Conclusions are difficult to draw because of the use of race as a first-order control variable. With data from the Health and Retirement Study, this paper builds on past research by allowing race to have both direct and indirect associations with health and mortality. The results suggest that when other factors are not controlled, divorce is associated with poorer health and higher mortality for both blacks and whites; however, for the overall sample, socioeconomic status appears to explain this entire association. Conversely, respondents who divorced or separated between waves appeared to have better health compared to when they were married, even when other factors were controlled. Overall, the link between divorce and health is not statistically different for the two races, though tentative evidence in the transitioners sample suggests that in some cases the health of blacks may be less affected by divorce compared to whites.

## **Black-White Differences in Health and Mortality Among the Older Divorced**

### **Introduction**

Although the divorce rate in the United States has increased throughout the century, it was not until the 1960s and 1970s that the likelihood of divorce rose precipitously (Cherlin 1992). One result of this upsurge in divorce is a change in the marital history of the current older population (Cooney & Dunne 2001, Holden & Kuo 1996). Today's midlife and elderly cohorts are probably the first in United States history to contain a substantial number of divorced or remarried individuals. Further, though the divorce rate leveled off in the 1980s, approximately half of first marriages are still expected to dissolve (Raley & Bumpass 2003b), and remarriage rates are declining slightly (Schoen & Standish 2001). Thus, divorce and complex marital histories will continue in succeeding cohorts.

Accordingly, divorce will affect an increasing proportion of the midlife and elderly population. Among these age groups, divorce has been found to be associated with depressive symptoms (Earle et al 1998, Marks 1996), loneliness (Peters & Liefbroer 1997), economic hardship for women (Holden & Kuo 1996, Morgan 1989, Uhlenberg et al 1990), and poorer physical health (Fenwick & Barresi 1981, Pienta et al 2000, Smith & Kington 1997a). The older divorced also have higher mortality than the married (Rogers 1996).

However, the effects of divorce may not be uniform across different subgroups. There are reasons to believe that the gap between the married and divorced, particularly for health and mortality, may differ for blacks and whites. Blacks have poorer health and higher mortality than whites (Smith & Kington 1997a, Waite & Hughes 1999), and are

more likely to divorce (Bramlett & Mosher 2002, Cherlin 1992, Raley & Bumpass 2003a). Cultural differences and disparate baselines in well-being may well result in divergent outcomes for divorced blacks and whites.

A few studies have addressed black-white differences in health among the older divorced, but substantive conclusions are difficult to draw because of a potential limitation. Extant work has treated race as a control variable (e.g., Fenwick & Barresi 1981, Goldman et al. 1995, Pienta et al. 2000, Rogers 1996), though research on divorce in the younger population has found that race interacts with other variables (Kitson et al 1989). In addition, the literature on race differences in health often finds significant race-based interactions (Ferraro 1993, Mutchler & Burr 1991, Schoenbaum & Waidmann 1997, Shea et al 1996). Consequently, an additive approach, where race is used as a first-order control variable, may be insufficient. The effect of divorce on health may interact with being black or white, which would be obscured by past models.

In this paper, I focus on the health and mortality of older divorced blacks and whites, compared to their married counterparts. To capture several dimensions of well-being, I analyze self-rated health, limitations in activities of daily living (ADL) and other physical tasks, and mortality. I use five waves of the Health and Retirement Study (HRS), estimating both direct and indirect associations of race by using race-based interactions. All analyses are separated by gender, as older men and women often have divergent health profiles (c.f., Guralnick et al. 1993; Hayward and Heron 1999; Lunney et al. 2003; Manton and Land 2000). Though much is known about the health of older adults, the unprecedented prevalence of divorce in this group has created a new gap in the existing literature.

## **Background**

Although most individuals marry at some point in their lives, the unmarried have usually comprised a sizable proportion of the older population. In the past, widowhood was by far the most common status among the unmarried. In 1960, 18.8 percent of men and 52.9 percent of women 65 years and over were widowed (U.S. Bureau of the Census 1996). In contrast, less than 2 percent of men and women were divorced (U.S. Bureau of the Census 1996).

In the 1960s and 1970s the divorce rate more than doubled (Cherlin 1992), peaking between 1978-1980 (U.S. Bureau of the Census 1992). By 1985 the divorce rate was declining for younger women, but continued to increase through 1990 for women 35 years or older (U.S. Bureau of the Census 1992). Divorce still tends to be concentrated among younger women, with only 11.7 percent of divorces in 1990 occurring to women 50 years and older (National Center for Health Statistics 1995); however young cohorts that experienced the upheavals of the 1960s and 1970s are now entering mid- to later life.

In 1970, 2 percent of those 65 and older were divorced, compared to almost 7 percent in 2000 and the prevalence of divorce in the older population is expected to increase as the baby boomers age (Fields & Casper 2001, U.S. Bureau of the Census 1996). By 2050 it is estimated that 8.4 percent of men and 13.6 percent of women 65 and over will be divorced; widowhood is projected to decrease to 13.4 percent of men and 36.9 percent of women in this age group (U.S. Bureau of the Census 1996). Additionally, even among the married, many have been divorced at some point. In a study of retirement-age respondents, those in a first marriage have become a minority, comprising

only one-quarter of black households and less one than half of white households (Holden & Kuo 1996).

As with the overall population, divorce is associated with deleterious outcomes among older people. Most work has focused on economic well-being and finds that older women tend to suffer economically after a divorce, both short and long-term (Choi 1992, Fethke 1989, Holden & Smock 1991, Uhlenberg & Myers 1981), even more so than after widowhood (Choi 1992, Uhlenberg et al 1990, Vartanian & McNamara 2002, Wilmoth & Koso 2002). The older divorced also tend to have more depressive symptoms than their married counterparts (Earle et al 1998, Marks 1996). In terms of physical health, divorce is associated with a deterioration of self-reported health, more days in a medical institution, such as a hospital (Fenwick & Barresi 1981), and more functioning problems and disabilities (Pienta et al 2000). In fact, of all marital statuses, the divorced have the worst health profile (Pienta et al 2000).

Most of these post-divorce outcomes appear to vary by race, though conclusions are mixed. Past research on the overall population suggests that blacks' health is less affected by marital status than whites' health (Aldous & Ganey 1999, Gove & Shin 1989, Keith 1997, Neff & Davis Schluter 1993, Williams et al 1992), though the likelihood of mortality may be similar (Rogers 1995). However, this research is dominated by the effects on younger individuals, who comprise most of the divorced sample (Hiedermann et al 1998). Because the relationship between health and marital status varies with age (Gove 1973, Waldron et al 1997, Williams & Umberson 2001) these outcomes should not be presumed to apply to older blacks and whites.

### Does Divorce Affect Older Blacks Differently than Whites?

Overall, there are conflicting predictions as to whether and how blacks and whites will differ following a divorce. First, there are reasons to expect that blacks will be less affected by divorce than whites. The context of divorce differs for blacks and whites; blacks are less likely to marry, and those who do marry are much more likely to divorce and less likely to remarry (Bramlett & Mosher 2002, Cherlin 1992). An estimated 70 percent of black women's first marriages will end in divorce, compared to 47 percent of white women's (Raley & Bumpass 2003a). The frequency of divorce in the black community may better prepare married blacks for the experience, protecting them from some of the injurious consequences associated with divorce and separation (Gove & Shin 1989). In addition, the emphasis on extended family, rather than the marital bond, may translate into less deleterious outcomes following marital dissolution among blacks (Cherlin 1992, Cherlin 1998, McKelvey & McKenry 2000).

Second, and conversely, blacks may be more affected by divorce. Relative to whites, blacks are disadvantaged in terms of health and socioeconomic status, and their poorer well-being may be more easily overwhelmed by marital dissolution. Blacks are the most disadvantaged racial group in terms of health (Hayward & Heron 1999). Blacks have more functional limitations than whites (Freedman & Martin 1998, Waite & Hughes 1999, Wray & Blaum 2001), more chronic conditions (Robert & Lee 2002), poorer self-rated health, (LeClere & Soobader 2000), a steeper decline in health assessments (Ferraro et al 1997), a lower life expectancy than whites and are more likely to die at most ages (Elo & Preston 1997). Divorce has been linked with a change in health, such that older respondents who divorce experience a decline in health (Fenwick & Barresi 1981) and an

increase in mortality (Zick & Smith 1991). Thus for older blacks with lower baselines of physical well-being than whites, a further decrease in health may prove particularly inimical. Although blacks have poorer health than whites at all ages, this difference may be less apparent in the younger divorced population with more robust health.

Disparities in socioeconomic status explain much of the black-white differences in health and mortality, though the specifics vary. Some researchers find that socioeconomic differences can account for the entire racial gap in health (Robert & Lee 2002) and mortality (Smith & Kington 1997b), whereas other researchers maintain that controls cannot fully erase black-white disparities (Hayward et al 2000, Mutchler & Burr 1991, Schoenbaum & Waidmann 1997, Waite & Hughes 1999).

To further complicate the matter, race has been found to interact with socioeconomic variables in predicting health; thus simply controlling for socioeconomic variables may not be enough. For instance, indicators of socioeconomic status and economic well-being have been shown to have a larger positive effect on the health of blacks compared to whites (Mutchler and Burr 1991; Schoenbaum and Waidman 1997). Although causality cannot be determined, the wealth gap between blacks with poor and better health is much larger than for whites (Shea et al. 1996).

This interaction between socioeconomic status and health is particularly relevant in regards to marital dissolution. Many older adults live on a fixed income and can only remain solvent because of assets such as home-ownership and other private resources (Berardo 1982). The division of property following marital dissolution may be worse for older blacks who have much less wealth to divide than their white counterparts (Smith 1995). Research on wealth and mortality indicates that the link is strongest for those at

the lower end of the wealth distribution (Attanasio & Hoynes 2000), where divorced blacks may be disproportionately likely to fall. Further, if socioeconomic status has a greater impact on blacks' health, an economic loss after marital dissolution may be more harmful to the health of blacks than whites.

Lastly, unlike the younger population, older blacks and whites may actually respond similarly to divorce. Older blacks may be less selected into marriage than their younger counterparts. Entry into marriage has always been selective, associated with higher income, education, and better health (Clarkberg 1999, Oppenheimer 2003, Smock & Manning 1997, Waldron et al 1996), but older generations married and divorced in quite different circumstances than younger cohorts. After World War II, blacks and whites experienced a surge in the likelihood of divorce, with rates increasing similarly for both groups between 1960 and 1980 (Cherlin 1992). Yet the proportion of women never marrying started diverging dramatically between blacks and whites born in the 1940s (Cherlin 1992). While the proportion of ever-married has declined modestly for whites, it has dropped substantially among blacks (Bennett et al 1989), such that now an estimated one in three black women will never marry (Teachman et al 2000).

Women entering retirement ages in the 1990s were marrying slightly before this transition. Among these cohorts, marriage was more universal, which implies selection into marriage is more likely to operate similarly between blacks and whites. If married blacks and whites are reasonably similar, then the subsequent pool of divorced blacks and whites also may be relatively similar. Consequently, the gap between the health of the divorced and the married may be comparable for blacks and whites, though outcomes may be diverging among younger cohorts.



Extant research only provides a few clues to these opposing hypotheses. Cross-sectional research of all age groups has found that divorced blacks report feeling less stigmatized than their white counterparts (Brown et al 1977, Kitson & Holmes 1992), and the gap in depressive symptoms is smaller between divorced and married blacks than it is for whites (Gove & Shin 1989, Neff & Davis Schluter 1993, Williams et al 1992). However, this research focuses only on emotional health outcomes, rather than physical health. In addition, as stated before, younger people will dominate divorce research that uses the overall population, and results may differ for older respondents.

Research on the race differences in the health of older divorced respondents is limited and conflicting. Pienta et al's (2000) cross-sectional study showed that divorce was worse for the physical health of blacks than for whites, though they did not statistically test this possibility. However, other work suggests that the gap in health (Goldman et al 1995) and mortality (Rogers 1996) between the divorced and married is similar for blacks and whites<sup>1</sup>.

### **Current Investigation**

In this paper, I build on past research by statistically testing whether the gap between the health and mortality of the divorced and married differs for blacks and whites. Including race as a control variable can only indicate the status of blacks compared to whites, holding marital status (and other variables in the equation) constant. In order to determine whether the divorce outcomes vary by race, interactions must be used (the construction of which is discussed in the Methods section).

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<sup>1</sup> Goldman et al. (1995) use a sample of respondents seventy and older, which may be particularly homogeneous because of declining health and selective mortality.

The study of divorce in an older sample allows the analysis of persistent, cumulative effects of marital status on health and mortality. For many respondents, the divorce occurred years ago<sup>2</sup>. The stressors and unhealthy behaviors associated with divorce (Umberson 1992) may become increasingly problematic as people age and their health begins to decline. As I have shown, there are numerous and conflicting reasons to expect if and how the outcomes differ for divorced blacks and whites. This paper is the first to statistically test the possibilities.

In addition, I supplement these analyses by applying similar models to respondents who divorce between waves. Selection is always problematic in an analysis of divorce. It is possible that those who divorce are simply different from those who remain married, and the association between divorce and health is spurious. Research is divided, with some concluding that the unhealthy are more likely to divorce (Booth & Johnson 1994, Joung et al 1998), and others finding very small (Waldron et al 1996, Wilson & Waddoups 2002) or no effects (Mastekaasa 1997). Moreover, it is possible and even probable that selection into divorce may operate differently for blacks and whites. This difference may be minimized in these cohorts in which selection into marriage is similar for both blacks and whites, but it remains a possibility.

Using respondents who divorce or separate between waves is a rough test of selection. By including a measure of health from when the respondent is still married, one can better control for the possibility that the type of person who divorces would still be badly off even if they remain married. However, the rate of marital transition is very low for these age groups, with only 61 blacks and 192 whites divorcing or separating between all five waves of data. With such a small sample size, conclusions are tentative.

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<sup>2</sup> The average is about 14 years with a range between 0 and 42 years.

For both the main and transitioners sample, physical well-being is measured with self-rated health, limitations in activities of daily living, other physical limitations, and mortality. In addition to race and marital status, I control for other covariates that are associated with health. In particular, I include extensive measures of socioeconomic status.

For the main sample, analyses are separated by gender, as research has long found that men and women differ in health outcomes. Simply put, men have higher mortality, and women live longer but have greater morbidity (Guralnik et al 1993, Hayward & Heron 1999, Kotler & Wingard 1989, Lunney et al 2003, Manton & Land 2000). More specifically, women tend to suffer from more chronic conditions (Verbrugge 1989), poorer self-rated health, and more disabilities (Verbrugge 1985). Gender differences in health are consistent and cross-national (Rahman et al 1994). Further, these differences do not appear to be the result of women reporting more “trivial” complaints (Arber & Cooper 1999, Macintyre et al 1999).

I use five waves of the Health and Retirement Study (1992-2000), which provide multiple years of data for most respondents and are preferable to a cross-section that only measures respondents at one point in time. Cross-sectional results may be misleading, if for some reason the data were collected at an atypical or anomalous period. Multiple records help minimize this possibility.

### **Data and Methods**

The Health and Retirement Study (HRS) contains over 12,600 individuals. The sample was designed to be nationally representative of the non-institutionalized

population born between 1931 and 1941. In addition, the sample includes the spouse of the respondent, regardless of the spouse's age. The first wave was collected in 1992, when respondents were between the ages of 50 and 62, with follow-up interviews conducted every two years by telephone.

The HRS has a number of advantages in terms of this analysis. First, the HRS has extensive measures of health and assets for its respondents. Second, the HRS oversamples blacks, which facilitates a comparison between blacks and whites. Third, the HRS collects data from a cohort that was just on the cusp of change in terms of marriage and divorce patterns. These respondents belonged to some of the last cohorts that have relatively similar marriage patterns between blacks and whites. Lastly, data collection begins when the respondents are middle-aged, a point in the lifecycle when race differences in health may be greatest (Hayward et al 2000, House et al 1994). Thus, the data may best illustrate differences in the health of blacks and whites.

### Sample

I use the five available waves of the HRS, from 1992 to 2000. Spouses that are not in the birth cohorts between 1931 and 1941 are excluded to keep the analysis focused on respondents in middle to young-old ages (loss of 2,759 cases). Only non-Hispanic whites and non-Hispanic blacks are retained in this sample (loss of 1,113 cases). In addition, since marital status is one of the key independent variables, I delete 40 cases where respondents have inconsistent marital histories. These respondents indicated that they had been married at some point (e.g., married, divorced, widowed), and then in later waves claimed they were never married.

At baseline there are 8,522 respondents in the main sample. Of these respondents, 47.1% are men (4,015 cases) and 52.8% (4,507) are women. Blacks comprise almost 19 percent of the sample (1,614), and there are 1,265 divorced or separated respondents (14.8%) at baseline.

In terms of person-years, there are 36,666 observations, with respondents contributing between one and five records. The average number of records per person is 4.63; thus most respondents are retained throughout the five available waves.

The transitioners sample contains a total of 253 respondents; 61 are black and 192 are white. Together the transitioners contribute 1,115 observations.

### Dependent Variables

Because health is a multidimensional construct (Wallace & Herzog 1995), I use several measures of physical well-being. The first measure is self-rated health, where a respondent is asked: “Would you say your health is excellent, very good, good, fair, or poor?” Although this is a straightforward question, past research has found that self-assessed health is a significant predictor of well-being. Women with poor self-rated health are over three times more likely to die than those who rate their health as excellent (Idler & Kasl 1991). For men the gap is even larger, with those who rate their health as poor almost seven times more likely to die (Idler & Kasl 1991). The association between poor self-rated health and higher mortality holds even after controlling for more “objective” measures, such as a physician’s assessment (Mossey & Shapiro 1982) or health care use (Menec et al 1999). In addition, self-rated health has been found to have

a significant association with other indicators of well-being, (e.g., levels of blood sugar and blood pressure), independent of baseline measures (Kaplan 1987).

The second measure of health is any limitation in “activities of daily living” (ADLs), which include some of the most basic skills necessary for independent living (Manton & Land 2000, Wiener et al 1990). Past research has found that limitations in ADLs are predictive of long-term adaptation, hospitalization, and death (Katz & Akpom 1976, Spector et al 1987). In addition, some researchers assert that a respondent’s self-reported health taps psychological factors such as morale and motivation to preserve independence (Manton & Land 2000).

For this analysis, the ADL limitations include a respondent’s assessment of their ability to (1) get in and out of bed (2) walk across a room (3) bathe (4) eat and (5) dress. Since the response categories differ across waves, respondents are coded as having an ADL limitation if they indicate at least a little difficulty performing a task, or if they claim they do not do a task. Considering the very basic and necessary nature of ADLs, I assume that not performing a task is tantamount to not having the ability to do so.

With the relatively young ages of the sample, particularly in the first wave of data, most respondents do not report any ADL limitations. In an analysis of the first wave of HRS data, Pieta et al (2000) found that 9 percent of the sample reported at least one ADL limitation. Thus, rather than tease out variations in how many ADL limitations individuals may have, the five aforementioned ADLs are combined in a dichotomous variable that indicates presence of at least one ADL limitation.

The third measure of health is a count of physical limitations. The following limitations were asked in all waves and are used in the analysis: walking at least one

block, sitting for two hours, getting up from a chair, climbing at least one flight of stairs, stooping or kneeling, lifting 10 pounds, picking up a dime, lifting arms above shoulder level, and pushing large objects. Difficulty in these areas is likely to be less of a hindrance to independent living compared to ADL limitations, but still documents physical impediments. Pienta et al. (2000) found fairly high levels of physical limitations among the 1992 HRS respondents, with prevalence of these difficulties ranging from 29 to 62 percent of the sample, depending on the specific limitation. With the greater frequency of physical limitations in the sample, I use a count of limitations rather than a binary variable.

The final dependent variable of interest is mortality. The HRS tracks the mortality of respondents in two ways. The first is through proxy interviews after the respondent has died, and the second is by linking records with the National Death Index. Deaths are recorded from 1992 until 2000 with both methods. In this analysis, mortality is coded as a binary variable at the last wave in which the respondent was interviewed.

By using these four measures, I attempt to cover several dimensions of health and well-being. Research indicates that most of the measures of health perform fairly similarly for blacks and whites (Gibson 1991, Johnson & Wolinsky 1994, Stump et al 1997), though one study suggested that the health of black men may not be captured as well by extant measures (Clark et al 1997). If the latter study is true, the association with black men's health may be underestimated not only in this paper, but also in past research that has used these measures<sup>3</sup>.

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<sup>3</sup> I have not included two other possible measures of health: instrumental activities of daily living (IADLs) and chronic diseases. IADLs may be considered more cognitively complex than ADLs, such as managing money, taking one's prescription medications and so on; unfortunately, the HRS does not include consistent measures of IADLs across waves, precluding the possibility of tracking change over time. As

### Independent Variables

Marital status is divided into several categories. Divorced or separated respondents are aggregated into one category. Blacks are more likely than whites to have separated permanently and not divorce (Bramlett & Mosher 2002); thus to exclude separated respondents would potentially bias the sample. I also include dichotomous variables for (1) widowhood and (2) never married, making married/remarried respondents the reference category.

Additionally, the models include several other measures pertaining to marital status. First, I use a continuous measure of the number of marriages because past research has found that remarriage may be less beneficial for health and mortality than first marriage (Barrett 2000, Hemstrom 1996, Kurdek 1990, Marks & Lambert 1998, Peters & Liefbroer 1997). This last variable will also indicate whether widowed and divorced respondents had been married more than once, as multiple transitions out of marriage are associated with negative mental health outcomes (Barrett 2000, Kurdek 1990). Second, I also include a measure of length of the longest marriage, since the benefits of marriage may vary depending on its duration. Third, I have a measure of years since the divorce. The ill effects of divorce may dissipate over time, so that the link between health and divorce are weaker for those who are long divorced (cf., Kitson & Holmes 1992). The correlation between length of longest marriage and time since divorce is -.31.

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for chronic diseases, past work has documented differences between divorced and married individuals (Pienta et al 2000). However, as chronic diseases become more prominent in a group, other measures of morbidity may be better indicators of social inequality (LeClere & Soobader 2000).



Race is coded as a dummy variable: 1 for respondents who identify as black or African-American and 0 for white/Caucasian respondents. I also control for several other variables that affect health and mortality. Unsurprisingly, age is associated with both health and mortality, with older individuals more likely to be in poor health and/or to die. Socioeconomic status has a substantial impact on health and mortality, so I include three components<sup>4</sup>: education, household income, and wealth. Past research finds that higher education may postpone the onset of poor health (House et al 1994). In addition, educational inequalities in mortality may be even stronger for people 65 and older compared to younger groups (Preston & Elo 1995).

I include measures of both income and wealth, as it has been shown that both variables are associated with health (Attanasio & Hoynes 2000, House et al 1994). Further, there are greater disparities between blacks and whites in terms of wealth compared to income (Oliver & Shapiro 1995, Shea et al 1996, Smith 1995); thus only including a measure of income may underestimate the difference in financial security between blacks and whites. Missing values of wealth and income have been imputed using procedures described in RAND HRS Data Documentation (2003). The measure of total wealth is a sum of the values of real estate, vehicles, businesses, checking and savings accounts, stocks, bonds and mutual funds, minus the value of all home mortgages and other debts. Total household income includes earnings, pensions, social security, SSI, unemployment, worker's compensation, and any other government transfers or household income. Since wealth and income are extremely skewed in this sample, I use

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<sup>4</sup> Initially, I also included a measure for occupation that indicated whether the job the respondent held the longest was professional, managerial, or clerical/administrative. However, over 600 female respondents did not report any occupation code, most likely because of many years out of the labor force, and thus I did not include the variable in the final models.

the natural log of both measures. To retain respondents with negative or zero wealth and/or income, the values are set to one and then logged; the natural log of one equals zero.

The last first-order variables in this analysis are number of household members and whether the respondent has children. The first variable is included to recognize that income and wealth may be spread across numerous people. Whether the respondent has children is included since children may provide physical, financial, and emotional support to their parents, all of which may be beneficial to one's physical well-being. Most existing research has focused on psychological outcomes. One study found that older, divorced, childless men had the highest odds of depression and loneliness, though the association did not hold for women (Zhang & Hayward 2001). However, another concluded that older parents received few psychological rewards from having had children (Glenn & McLanahan 1981). Consequently, it is unclear if parents will receive any health benefits from their children.<sup>5</sup>

### Analysis

For this paper, observations will be in person-years; accordingly there will be a record for each wave of interviews in which a respondent participated. Using person-years facilitates the inclusion of time-varying explanatory variables, because each wave of data is treated as a separate record (Allison 1984). All analyses will be separated by gender and include race-based interactions. Statistical significance of interaction terms

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<sup>5</sup> Other variables that I included in preliminary analyses were employment status and depressive symptoms. However, I omitted these variables in the final models because of concerns with endogeneity (cf. Farmer & Ferraro 1997). Though these variables were significant, they did not drastically alter the interactions between marital status and race.

indicates that the relationship between the independent and dependent variable differs for blacks and whites.

Because I have several different types of dependent variables, I employ multiple models in the analysis. For the measure of self-rated health, I use ordered logit regressions, which allow an ordering of responses, but do not require that the intervals between categories are equal (DeMaris 1995, Long 1997). For the dichotomous measure of ADL limitation, I use logit regression models; linear regression models are estimated for the continuous measure of physical limitations. For these three models, standard assumptions of independence between observations do not apply since multiple records refer to one individual. Assuming independence may lead to an underestimation of standard errors, sometimes by a factor of two or more (Stata 1997). This clustering is corrected by recognizing that individuals rather than records are the primary sampling units. In addition, to prevent respondents who are present in more waves from unduly affecting the analysis, the models are weighted using the inverse of the number of times a respondent appears in the data.

For the last dependent variable, mortality, I estimate Cox proportional hazard models. The hazard is assumed to be  $h(t) = h_0(t)e^{\beta(1)x(1)+\dots+\beta(k)x(k)}$ , where  $h_0(t)$  is the baseline hazard. Cox proportional hazard models do not require assumptions regarding the shape of the underlying hazard, and they allow time-varying independent variables (Allison 1984). Respondents are included in the analysis until they die or are censored at wave 5. With links to the National Death Index, even the deaths of attrited respondents are recorded.

I first present the results for the main sample, followed by a discussion of the results for the transitioners. Details of the transitioners analysis can be found in that section.

## **Results**

In tables 1a and 1b, I include descriptive characteristics of all marital statuses. As with the multivariate analyses, I divide the sample by gender. Using the married as the reference group, two-tailed t-tests detect the difference between means, and the Mann-Whitney test is used to test the difference between medians. I also test race differences within marital status; for clarity the results are not shown in the table, though I discuss the results in the text. I will refer to the married/remarried group as married and the divorced/separated group as divorced. Here I focus on the differences between the married and divorced since these are the two marital statuses of most relevance in this paper.

Table 1a shows that divorced women have significantly worse well-being than their married counterparts. Divorced women have poorer self-rated health, a higher proportion of ADL limitations, more physical limitations, and a greater percentage of deaths before the second wave. The majority of these differences are statistically significant.

In addition, black women tend to have worse health outcomes than white women in comparable marital statuses. The health differences between divorced white and black women are all statistically significant, as are the race differences between self-rated health and ADL limitations for married women. Interestingly, the well-being of divorced

white women is similar to that of married black women. Perhaps the advantage of being white is attenuated by divorce, or conversely, some of the disadvantages associated with being black are lessened through marriage.

[Table 1a here]

Measures of socioeconomic status show stark black-white and marital status differences. Compared to the married, all other marital statuses are disadvantaged economically. Again, black women fare worse than white women in the same marital categories (p-values are less than .01). Comparing the divorced to the married shows that for both black and whites, the household income of divorced women is less than half that of married women. Further, the total wealth of divorced white women is about 23 cents for every dollar of wealth of married white women. Even more drastically, the wealth of divorced black women is approximately 12 cents for every dollar of their married counterparts. Compared to divorced whites, divorced black women have only 18 percent as much wealth. The gap is narrowed slightly among married women, with married black women holding roughly 36 percent of the wealth of married whites.

Among men, there are similar patterns. The divorced are worse off physically than the married, and blacks are worse off than whites. In other words, divorced black men have poorer health outcomes than married black men, married white men, and divorced white men. Race differences within the same marital status category are statistically significant, with few exceptions<sup>6</sup>.

[Table 1b here]

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<sup>6</sup> There is not a significant difference in proportion of deaths before the second wave. In addition, black and white married men do not have a significantly different number of physical limitations (excluding ADL limitations).

Again, the divorced are worse off financially than the married (p-values less than .01). In addition, the economic gap between the married and divorced appears to be worse for black men compared to white men. Divorced black men have about 43 percent of the household income as married black men, but divorced whites have about 58 percent of the household income of married white men. In terms of wealth, divorced black men hold only six percent (6%) of the wealth of married black men, whereas divorced white men maintain about 43 percent of the wealth of their married counterparts. For every dollar of wealth of divorced white men, black men have approximately six cents. Among married respondents, black men have 43 cents for every dollar of white men.

In sum, divorced white men have substantially less income and wealth than married white men, but fare far better than divorced black men. Divorced black men have not only a mere fraction of the wealth of their married same-race counterparts, but have less than seven percent of divorced white men's wealth and less than four percent of married white men's holdings. Married black men do somewhat better relative to whites; thus overall, the black-white gap in economic well-being is smaller among the married.

### Multivariate Analysis

The next table displays an ordered logit model with self-rated health as the dependent variable. In the reduced model, self-rated health is regressed only on marital status and race (shown in the first and third columns). Men and women show similar patterns, though the coefficients differ somewhat. Being divorced or widowed significantly increases the odds of worse self-rated health; for men, so does being never-

married. Compared to whites, blacks have significantly higher odds of poor self-rated health. The interaction term for being black and divorced is not significant, which implies that the gap between the divorced and married is not significantly different between blacks and whites. However, the interaction for widowed women and race is significant; compared to white widows, black widows have higher odds of rating their health as worse than their married counterparts.

[Table 2 here]

The full model includes numerous variables in addition to marital status. Once these variables are included in the model, divorce is no longer significant. However, widowhood remains significant for women, as does the interaction between race and widowhood. In the full model, being never-married is significant for men and black women. While never-married white men have higher odds of rating their health as worse than the married, black men and women are actually more likely to rate their health as better than the married.

The socioeconomic variables are also significant. For both men and women, education, household income and wealth all reduce the odds of poorer self-rated health. In addition, the respective interactions between income and wealth with race are both significant. For black men and women, wealth appears to have a weaker association with self-rated health, compared to their white counterparts; income also has a significantly weaker association, though only for black women.

Other significant variables are age, education, and number of marriages. Unsurprisingly, better self-rated health is associated with higher education and younger ages. The link between self-rated health and age may be weaker for black women.

Number of marriages is also significant for both genders, showing a positive relationship, except for black women.

In the next model of ADL limitations, the reduced models suggest that divorced women and men have a higher risk of an ADL limitation compared to the married, though again blacks and whites are not significantly different. In these models, the widowed also have a higher likelihood of having an ADL limitation than the married. In contrast, none of the marital status coefficients are significant in the full model, implying that people in all marital categories have similar risks once other factors are controlled.

[Table 3 here.]

In the full models, age increases the likelihood of having an ADL limitation for both men and women. The number of children is associated with a lower likelihood of having an ADL limitation for white women, but a higher likelihood for black women.

The three components of socioeconomic status are significant for both men and women. A higher education, greater income and greater wealth are all associated with a lower likelihood of an ADL limitation. Further, the association may vary for blacks and whites. Income has a weaker negative association with ADL limitations for black compared to white women, whereas wealth may have a weaker association for blacks relative to their white counterparts.

The OLS models of other physical limitations produce patterns similar to the previous dependent variables. In the reduced model, divorce is associated with a significantly higher number of physical limitations compared to marriage, and this is true for both men and women. However, in the full model, divorce is no longer significant. The interaction term for race and divorce is not significant in either the full or reduced



models, whereas the interaction term with widowhood is significant for women in the full model. This suggests that white widows have a similar number of physical limitations compared to married women, holding other factors constant, but black widows may have a higher number of physical limitations.

[Table 4 here.]

For both men and women, education, income and wealth are associated with fewer physical limitations. The interaction for wealth and race is significant for women, indicating that wealth is less effective for black women.

In the last table, I show the coefficients for mortality. Divorced white women have a 78 percent higher risk of mortality compared to married women, and the gap for divorced white men is 92 percent. The associations are not statistically different for blacks. The coefficients for widowhood are also significant in the reduced models.

[Table 5 here.]

In the full models, none of the marital status variables are significant for either men or women. In contrast, the three socioeconomic variables, education, household income, and wealth, are significant. Overall, this pattern suggests that the observed marital status differences in mortality may be driven by differences in socioeconomic standing. In particular, the lower wealth and income of the divorced and widowed may be increasing their likelihood of dying, rather than marital status per se.

### Transitioners

In this section I briefly present the results for the respondents who divorced or separated between waves. The models are similar to the main section but pared down to

accommodate the much smaller sample size of those who experience these marital transitions. First, I dropped all marital status dummies, except for divorce. In order to have values for the other statuses, a respondent would have had to experience numerous transitions within the five waves; for example, never married, married, divorced. Very few respondents fit this criterion. Secondly, I dropped length of longest marriage and whether the respondent had children because of problems with multicollinearity in the transitioners sample.

In the previous analyses, men and women have exhibited similar patterns; consequently I combine the two genders for these analyses to maximize sample size. I present the full models for transitioners (as in the main sample), omitting mortality as a dependent variable. There is simply not enough variability in the sample to estimate mortality. I also present fixed effects models for the measure of other physical limitations. Fixed-effects are useful because they control for stable characteristics; thus if the type of person who divorces diverges from the continuously married, then fixed effects will eliminate this difference. However, fixed effects are not possible for an ordered dependent variable (self-rated health) and could not be usefully estimated with ADL limitations, because most respondents did not show a change in ADL status over the five waves.

Despite these limitations, the transitioners sample did yield some interesting results. First, in contrast to the results for the main sample, divorce was significant for both self-rated health and physical limitations even with controls for socioeconomic status and other variables (see Tables 6 and 8). However, the coefficient for divorce was unexpected: the transitioning divorced actually had relatively better self-rated health and

few physical limitations than when they occupied other marital statuses (mainly married). Further, this finding held in the fixed effects model of physical limitations, which is a stricter test. The divorce coefficient for ADL limitations was also negative, though not significant (Table 6).

The second unexpected finding is in Table 8, with other physical limitations: the interaction between divorce and race is significant in the fixed effects model and is marginally significant in the OLS (p-value = .099). The interaction term is positive in both these models, indicating that the association between divorce and physical limitations is weaker for blacks than for whites.

## **Discussion**

In this paper, I analyze black-white differences in the health gap between the divorced and the married. Unlike previous research, all of the independent variables are allowed to vary with race, in case the associations differ for blacks and whites. In addition, I use several waves of data and numerous health outcomes to capture multiple dimensions of physical health and well-being over time.

For the overall sample, although divorce and separation tend to be associated with poorer health and higher mortality in the reduced models, the coefficients are not significant once other factors have been controlled. This relationship holds for both blacks and whites, so divorce alone does not introduce further racial stratification between these two groups.

However, for the transitioners, divorce appears to be associated with fewer health problems. Yet, compared to whites, transitioning blacks may be significantly less

affected in terms of physical limitations. The interpretation of this coefficient is convoluted since in this case divorce is associated with fewer health problems: it appears that transitioning blacks may *not* experience better health compared to their married counterparts, as whites do. Or in other words, divorce may not impact the health of recently divorced blacks. Regardless, these results must be regarded tentatively because of the small sample size.

For whites, this introduces the question of whether the effects of divorce dissipate over time or if those who divorce later in life experience divorce differently than younger divorcees. Perhaps divorce is somewhat beneficial to those who exit a poor quality, long-term marriage (average length of marriage was 21.7 years). Or divorce may occur as the result of a spouse's declining health (cf., Booth & Johnson 1994), which could tax the health and well-being of the other spouse. A reprieve from the caretaking role may restore better health for the divorced and separated.

In regards to the racial difference, it is possible that selection into divorce is operating differently for blacks and whites at older ages. Perhaps for blacks, those who divorce are more similar to the continuously married than is the case for whites. Given the relative disadvantage of many African-Americans, (e.g., socioeconomic status, health, experiences with discrimination), macro forces may impinge on marriage to a greater extent than experienced by whites. Structural explanations of racial differences in marital dissolution emphasize that the lower one's social location, the more hardships they are likely to experience, which may interfere with fulfilling their marital duties and expectations (Orbuch et al 2002). Consequently, blacks may be less "selected" into divorce based on personal factors than are whites. This possibility is not answerable with

the current sample, but new insights may be gleaned by examining the outcomes of divorce in a younger sample (see chapter two).

For the remainder of the paper, I focus on the outcomes for the overall sample, mainly because it may be more reliable than data on the very few transitioners. As mentioned above, divorce is not significant, even in the reduced models, and the health gap between the divorced and married is similar for blacks and whites.

These results are somewhat surprising for two reasons. First, why would blacks and whites have a similar health gap between the divorced and the married? A priori, we may expect that blacks would not be as adversely affected by divorce and separation as their white counterparts. Divorce is more common among blacks and the marital bond may not be as heavily emphasized in the African-American community. In addition, past research has shown that when the entire population is considered, marital status is a less effective predictor of well-being among blacks (Gove & Shin 1989, Kitson & Holmes 1992, Neff & Davis Schluter 1993, Williams et al 1992).

However, for these particular cohorts, marriage was likely to have occurred at a time when changes in the rates of marriage and divorce were still in incipient form. In other words, these cohorts were young and likely to have married before the time that many blacks did not marry. The result is that African-Americans were less selected into marriage (and thus at risk of divorce) than they are today and may have been more similar to whites with whom marriage is almost universal.

The second unexpected result from this analysis is lack of significance for divorce in the full models. In fact, in this paper, most of the marital status variables are not significant. In some models, widowhood is significant for women, but white widows

appear to have better health than the married. The general lack of significance for marital status is at odds with much research that indicates that marital status predicts health for both younger and older people (Goldman et al 1995, Gove 1973, Hu & Goldman 1990, Lillard & Panis 1996, Prior & Hayes 2003, Rogers 1995, Sorlie et al 1995, Verbrugge 1979, Waite & Gallagher 2000).

I offer two possible reasons for this discrepancy with extant research. First, it is possible that cohabitation is affecting the results. If a high proportion of the unmarried are living with a partner, this may mitigate some of the negative effects of being unmarried (Anson 1989, Lund et al 2002). However, in analyses that included cohabitation (not shown) the coefficient for cohabitation was not significant and did not change the other results substantively.

Second, marital status may not be significant in the full models because of the inclusion of detailed socioeconomic status variables. The extensive socioeconomic variables of the HRS may provide a truer representation of pecuniary differences between the marital categories, than earnings or income alone. As discussed in the methods section, the HRS taps numerous sources in its measures of income and wealth. This resultant wealth measure may be particularly important in this analysis, since wealth may have a larger effect on the health of elderly people than does income (Smith & Kington 1997a).

Compared to income, wealth may also better reflect an accumulation of disadvantage over time. Wealth will be the byproduct of years of labor force participation, hours worked, education, and marital status and transitions. However, wealth is not simply the result of individual decisions, but also incorporates the effects of

institutional arrangements and opportunity structures (O'Rand 1996), which may disadvantage particular groups, such as women and blacks.

Past research has found that wealth appears to be affected by life-course trajectories. One study found that midlife characteristics have a direct effect on economic well-being at older ages (Vartanian & McNamara 2002). Marital histories are one characteristic that exerts a long-term impact on assets. For instance, even if the divorce occurred at much younger ages, individuals have less savings than their married counterparts as they approach retirement (Fethke 1989, Holden & Kuo 1996). Further, marital histories are better predictors of wealth accumulation than current marital status (Wilmoth & Koso 2002).

In this analysis, the descriptive statistics illustrate the differences between income and wealth based on marital status. For both men and women, the gap between the income of the married and unmarried is often much smaller than the gap in wealth, a pattern that is more pronounced among blacks. As can be seen in Tables 1a, b, divorced black men have 45 percent of the income of their married counterparts, but only 7 percent of the wealth; divorced white men have 58 percent of the income of the married, but 44 percent of the wealth. Women exhibit similar patterns: divorced black (white) women have 41 (44) percent of the income of the married but 11 (23) percent of the wealth.

In addition, results in the analysis suggest that the relationship between health and wealth may vary by race. Some of the multivariate models indicate that the association between wealth and good health is weaker for blacks than for whites. This implies that higher wealth is not associated with better health for blacks to the same extent that it is for whites. The causal direction of this association is impossible to disentangle. It could

be that wealth is not as protective for blacks as it is for whites. Conversely, unhealthy blacks may deplete their wealth to a greater extent than do whites, or that even healthy blacks cannot accumulate the same amount of wealth as whites. Shea et al. (1996) found that blacks in poor health have much lower wealth than blacks in better health, a gap that is less pronounced among whites.

If blacks are unable to accrue similar levels of savings as whites, or if blacks' health has a stronger impact on wealth accumulation, they may have difficulty remaining financially solvent at older ages. This could affect reliance on social programs, such as Medicare, which will already be increasingly overburdened as large numbers of baby-boomers age. Blacks are less likely than whites to have private insurance and more likely to rely on public sources for their medical expenditures (Escarce & Kapur 2003). Further, as the older population becomes more racially diverse, an increasing proportion of older people are African-American (Smith 1998), which magnifies the effects of any race-based trends.

In closing, I would emphasize that though marital status per se does not appear to affect the health and mortality of older people, this only holds after socioeconomic (and other) variables have been controlled and for respondents who did not divorce between waves. In the reduced models, divorce and sometimes other unmarried statuses are significantly associated with poorer health outcomes. Although this link can be eliminated in statistical models, it is important to keep in mind that socioeconomic differences between marital categories are characteristic of the population. Married couples have the lowest prevalence of poverty and highest standard of living (Proctor & Dalaker 2003). As a decreasing proportion of the older population is married, fewer will



have a spouse' income or pension on which to rely. This trend is especially pronounced among African-Americans; in 1994, of those 65 and older, 41 percent of blacks lived with a spouse compared to 56 percent of whites (Saluter 1996). Thus even if marital status does not directly lead to disparities in health outcomes, the lower socioeconomic status of the unmarried will likely result in inequalities in well-being, which may render African-Americans particularly vulnerable.

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Table 1a: Baseline Descriptive Statistics of Female Sub-Sample

Variables	Black Women					White Women				
	Married/ Remarried	Divorced/ Separated	Widowed	Never Married	Married/ Remarried	Divorced/ Separated	Widowed	Never Married		
Self-rated health <sup>1</sup>	2.88 (1.11)	3.20** (1.17)	3.49** (1.12)	3.03 (1.06)	2.35 (1.11)	2.59** (1.32)	2.55** (1.19)	2.38 (1.10)		
% with ADL limitations	6.8	15.0**	15.6**	9.4	3.4	6.8**	7.6**	2.2		
Physical limitations	2.44 (2.44)	3.12** (2.80)	3.43** (2.97)	2.80 (2.67)	2.23 (2.23)	2.50* (2.48)	2.44 (2.36)	2.10 (2.17)		
% Deaths in 1992-1993	0.3	2.3*	3.6**	3.1**	0.5	1.3	1.8*	1.1		
Number of marriages	1.29 (.56)	1.29 (.54)	1.22 (.43)	0**	1.31 (.62)	1.47** (.75)	1.42** (.74)	0**		
Yrs longest marriage	30.38 (5.82)	19.83** (11.65)	21.30** (11.08)	0**	31.87 (7.91)	19.01** (8.98)	24.32** (9.97)	0**		
Yrs since divorce	0	16.63** (10.19)	0	0	0	13.18** (9.32)	0	0		
Age	55.53 (3.13)	55.64 (3.17)	57.03** (3.00)	56.20 (3.19)	55.82 (3.15)	55.56 (3.12)	57.05** (3.13)	55.41 (3.33)		
Years of education	11.75 (2.80)	11.65 (3.05)	11.10* (3.04)	10.46** (3.89)	12.53 (2.24)	12.62 (2.56)	11.94** (2.47)	13.35** (3.34)		
Median HH income	31,990	13,266**	9,442**	11,918**	45,000	20,000**	17,060**	24,908**		
Median wealth	55,302	6,500**	15,915**	850**	152,000	35,500**	62,000**	76,743**		
% with children	96.9	94.6	94.9	72.3**	97.1	94.2**	94.4*	9.6**		
Number of HH	3.28	2.44**	2.93*	2.27**	2.62	1.86**	1.84**	1.54**		

members	(1.47)	(1.55)	(1.98)	(1.27)	(.96)	(1.18)	(1.13)	(.73)
N	416	277	176	70	2668	501	305	94

\*\*p<.01, \*p<.05

Notes: All significance tests use married/remarried category as reference.

<sup>1</sup>Self-rated health: 1=Excellent, 5=Poor.

Table 1b: Baseline Descriptive Statistics of Male Sub-Sample

Variables	Black Men					White Men				
	Married/ Remarried	Divorced/ Separated	Widowed	Never Married	Married/ Remarried	Divorced/ Separated	Widowed	Never Married		
Self-rated health <sup>1</sup>	2.85 (1.18)	3.17** (1.33)	3.06 (1.19)	3.18 (1.24)	2.40 (1.15)	2.56* (1.26)	3.09** (1.32)	2.68* (1.18)		
% with ADL limitations	6.1	16.0**	9.7	15.6*	2.8	6.7**	8.1	4.5		
Physical limitations	1.64 (2.33)	2.32** (2.84)	1.91 (2.63)	2.39* (2.71)	1.54 (2.00)	1.82* (2.46)	2.49** (2.68)	1.70 (2.19)		
% Deaths in 1992-1993	2.4	4.0	0	4.9	1.4	2.2	5.1	0		
Number of marriages	1.39 (.62)	1.35 (.63)	1.25 (.51)	0**	1.38 (.67)	1.6** (1.08)	1.21 (.56)	0**		
Yrs longest marriage	26.70 (9.23)	20.41** (11.62)	21.50** (10.58)	0**	28.86 (8.11)	17.82** (9.10)	23.58** (9.00)	0**		
Yrs since divorce	0	15.70** (10.71)	0	0	0	11.79** (9.76)	0	0		
Age	55.79 (3.06)	55.90 (3.22)	56.38 (3.30)	55.45 (3.09)	56.00 (3.18)	55.49** (3.10)	56.88 (3.30)	55.66 (3.22)		
Years of education	11.16 (3.19)	10.54 (3.83)	10.56 (3.61)	10.22* (2.99)	12.82 (2.88)	12.79 (2.99)	12.12 (2.63)	13.62** (3.16)		
Median HH income	38,000	16,292**	15,500**	10,000**	50,000	29,000**	18,000**	24,440**		
Median wealth	58,650	3,750**	9,500**	500**	137,050	58,500**	67,000**	77,000**		
% with children	92.9	93.7	81.3*	40.8**	94.4	90.4**	88.4	7.0**		
Number of HH	3.33	2.01**	1.84**	2.04**	2.80	1.60**	1.74**	1.51**		

members	(1.47)	(1.45)	(.95)	(1.17)	(1.04)	(1.07)	(1.09)	(.63)
N	452	142	32	49	2837	345	43	115

\*\*p<.01, \*p<.05

Notes: All significance tests use married/remarried category as reference.

<sup>1</sup>Self-rated health: 1=Excellent, 5=Poor.

Table 2: Ordered Logit Regression Models of Self-Rated Health

	Women		Men	
Divorce	.42** (.09)	-.13 (.14)	.26** (.09)	-.25 (.13)
Divorce*black	.009 (.14)	.06 (.22)	.06 (.19)	.09 (.29)
Widow	.35** (.08)	-.26** (.08)	.57** (.16)	.04 (.15)
Widow*black	.35* (.14)	.62* (.16)	-.26 (.31)	-.14 (.30)
Never married	.21 (.15)	.24 (.26)	.46** (.14)	.56* (.24)
Never married*black	.11 (.23)	-.53* (.39)	.07 (.26)	-.37 (.49)
Number of marriages	---	.20** (.06)	---	.13** (.05)
Marriages*black	---	-.25* (.12)	---	-.13 (.14)
Yrs of longest marriage	---	-.0003 (.004)	---	.001 (.004)
Yrs marriage*black	---	.002 (.006)	---	.01 (.008)
Yrs since divorce	---	.003 (.007)	---	.01 (.007)
Yrs divorce*black	---	.01 (.01)	---	-.004 (.01)
Age	---	.05** (.006)	---	.04** (.007)
Age*black	---	-.04** (.01)	---	-.02 (.02)
Education	---	-.16** (.01)	---	-.14** (.01)
Education*black	---	.03 (.02)	---	.04 (.02)
Household income (Natural log)	---	-.19** (.02)	---	-.18** (.02)
Income*black	---	.09** (.03)	---	.008 (.04)
Total wealth (Natural log)	---	-.14** (.01)	---	-.14** (.01)
Wealth*black	---	.07** (.01)	---	.05** (.02)
Any children	---	-.06 (.14)	---	.06 (.11)
Children*black	---	-.12	---	.07

		(.03)		(.22)
Number of household members	---	.03		-.002
HH members*black	---	(.03)		(.02)
		-.02		.005
		(.04)		(.05)
Black	.79**	1.32	.69**	.10
	(.07)	(.84)	(.07)	(1.04)
F	59.91**	60.98**	23.54**	42.68**
Number of obs.	19727	19727	16932	16932

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Table 3: Logit Regression Models of ADL Limitations

	Women		Men	
Divorce	.71** (.16)	.16 (.28)	.83** (.18)	.47 (.30)
Divorce*black	-.01 (.26)	.10 (.40)	.03 (.31)	.15 (.49)
Widow	.78** (.16)	.10 (.19)	.69* (.31)	-.15 (.37)
Widow*black	.13 (.26)	.37 (.30)	-.79 (.52)	-.36 (.61)
Never married	-.34 (.47)	-.73 (.65)	-.13 (.45)	-.68 (.65)
Never married*black	.52 (.62)	.33 (.89)	.71 (.63)	1.16 (1.03)
Number of marriages	-----	.34 (.09)	-----	-.02 (.08)
# marriages*black	-----	-.39 (.20)	-----	.17 (.25)
Yrs longest marriage	-----	.0009 (.010)	-----	.002 (.01)
Yrs marriage*black	-----	.005 (.01)	-----	.02 (.02)
Yrs since divorce	-----	-.009 (.01)	-----	-.009 (.02)
Yrs divorce*black	-----	.01 (.02)	-----	-.0000 (.02)
Age	-----	.04* (.02)	-----	.06** (.01)
Age*black	-----	-.02 (.03)	-----	-.06 (.04)
Education	-----	-.14** (.03)	-----	-.11** (.02)
Education*black	-----	.05 (.04)	-----	.05 (.04)
Natural log household income	-----	-.15** (.02)	-----	-.13** (.03)
Income*black	-----	.09* (.04)	-----	-.04 (.05)
Natural log total wealth	-----	-.13** (.01)	-----	-.18** (.02)
Wealth*black	-----	.02 (.02)	-----	.09** (.03)
Whether R has children	-----	-.68* (.31)	-----	-.09 (.31)

Children*black	-----	1.19*	-----	-.06
		(.49)		(.46)
# household members	-----	.09	-----	.05
		(.05)		(.06)
HH members*black	-----	-.14	-----	-.09
		(.07)		(.09)
Black	.86**	-.18	.71**	2.44
	(.17)	(1.63)	(.17)	(2.26)
Constant	-3.28**	-.99	-3.33**	-2.28*
	(.08)	(1.06)	(.08)	(1.10)
F	24.92**	20.72**	10.74**	16.00**
Number of obs.	18591	18591	16071	16071

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Table 4: Linear Regression Models of Physical Limitations

	Women		Men	
Divorce	.47** (.10)	-.26 (.16)	.36** (.11)	-.009 (.15)
Divorce*black	.05 (.20)	.26 (.30)	.25 (.25)	.18 (.37)
Widow	.38** (.10)	-.17 (.11)	.28 (.18)	-.18 (.17)
Widow*black	.39 (.22)	.51* (.23)	-.10 (.35)	-.13 (.35)
Never married	.11 (.21)	.51 (.31)	.22 (.17)	.27 (.27)
Never married*black	.20 (.35)	-.32 (.55)	.36 (.38)	.22 (.62)
Number of marriages	---	.29** (.07)	---	.11 (.06)
# marriages*black	---	-.13 (.16)	---	.13 (.17)
Yrs longest marriage	---	.006 (.005)	---	.005 (.005)
Yrs marriage*black	---	.007 (.009)	---	.01 (.01)
Yrs since divorce	---	.01 (.009)	---	.002 (.008)
Yrs divorce*black	---	-.003 (.01)	---	-.006 (.02)
Age	---	.02* (.008)	---	.01 (.007)
Age*black	---	-.01 (.02)	---	-.007 (.02)
Education	---	-.13** (.01)	---	-.10** (.01)
Education*black	---	.009 (.03)	---	.04 (.03)
Household income (Natural log)	---	-.19** (.02)	---	-.17** (.02)
Income*black	---	.05 (.04)	---	-.08 (.05)
Total wealth (Natural log)	---	-.16** (.01)	---	-.15** (.01)
Wealth*black	---	.05* (.02)	---	.04 (.03)
Any children	---	.04 (.16)	---	-.02 (.11)

Children*black	---	.36 (.32)	---	.26 (.27)
Number of household members	---	.03 (.03)	---	.05 (.03)
HH members*black	---	-.06 (.05)	---	-.07 (.06)
Black	.51** (.11)	-.48 (1.23)	.27* (.10)	-.58 (1.32)
Constant	1.91** (.04)	5.64** (.53)	1.39** (.03)	5.19** (.49)
F	18.52**	34.93**	5.66**	21.46**
R <sup>2</sup>	.03	.13	.01	.12
Number of obs.	19729	19729	16937	16937

Table 5: Cox Proportional Hazard Models of Mortality

	Women		Men	
Divorce	1.78** (.31)	1.33 (.41)	1.92** (.28)	1.45 (.36)
Divorce*black	1.52 (.49)	1.13 (.59)	.86 (.24)	.82 (.39)
Widow	1.70** (.32)	1.24 (.27)	1.87* (.53)	1.22 (.36)
Widow*black	1.63 (.55)	1.26 (.49)	1.12 (.49)	1.45 (.68)
Never married	.63 (.37)	.49 (.37)	.97 (.33)	.54 (.25)
Never married*black	4.69* (3.28)	1.78 (1.73)	2.37 (1.12)	6.14* (4.87)
Number of marriages	---	1.13 (.12)	---	1.07 (.06)
Marriages*black	---	.82 (.19)	---	1.18 (.22)
Yrs longest marriage	---	1.00 (.01)	---	1.00 (.008)
Yrs marriage*black	---	.99 (.01)	---	1.03 (.01)
Yrs since divorce	---	1.00 (.02)	---	.99 (.01)
Yrs divorce*black	---	1.01 (.02)	---	1.02 (.02)
Age	---	1.00 (.02)	---	1.02 (.02)
Age*black	---	1.03 (.03)	---	.94 (.03)
Education	---	.94* (.03)	---	.93** (.02)
Education*black	---	1.05 (.05)	---	1.08* (.04)
Household income (Natural log)	---	.87** (.03)	---	.89** (.03)
Income*black	---	1.13 (.07)	---	1.01 (.05)
Total wealth (Natural log)	---	.93** (.02)	---	.92** (.02)
Wealth*black	---	.97 (.03)	---	1.03 (.03)
Any children	---	.67 (.22)	---	.73 (.16)

Children*black	---	.62 (.27)	---	1.36 (.54)
Number of household members	---	1.15** (.06)	---	1.01 (.05)
HH members*black	---	.86 (.07)	---	.95 (.08)
Black	1.18 (.28)	.13 (.28)	1.50** (.23)	3.00 (5.80)
Log likelihood	-3052.22	-2999.47	-4164.47	-4104.44
LR $\chi^2$	68.79**	174.30**	53.14**	173.20**
Number of obs.	19729	19729	16937	16937

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*Table 6: Ordered Logit Regression Models of Self-Rated Health for Transitioners*

	<b>OLS</b>
Divorce	-.35* (.15)
Divorce*black	.38 (.35)
Number of marriages	-.11 (.09)
# marriages*black	-.11 (.33)
Yrs since divorce	.05 (.05)
Yrs divorce*black	-.14 (.11)
Age	.04 (.03)
Age*black	.03 (.06)
Education	-.18** (.04)
Education*black	.06 (.09)
Natural log household income	-.21** (.06)
Income*black	.002 (.09)
Natural log total wealth	-.12** (.03)
Wealth*black	.05 (.05)
# household members	.11 (.06)
HH members*black	-.09 (.13)
Black	-2.79 (3.90)
F	5.19**
Number of obs.	1115

*Table 7: Logit Regression Models of ADL Limitations for Transitioners*

	<b>OLS</b>
Divorce	- .81 (.59)
Divorce*black	1.03 (.79)
Number of marriages	-.07 (.22)
# marriages*black	-.03 (.51)
Yrs since divorce	.11 (.12)
Yrs divorce*black	-.14 (.20)
Age	.04 (.05)
Age*black	.18 (.08)
Education	-.19 (.10)
Education*black	.13 (.15)
Natural log household income	-.09 (.10)
Income*black	-.04 (.12)
Natural log total wealth	-.19 (.05)
Wealth*black	.09 (.06)
# household members	.03 (.14)
HH members*black	.10 (.22)
Black	-12.32* (5.12)
Constant	-.16 (2.78)
F	3.66**
Number of obs.	1040

Table 8: Regression Models of Physical Limitations for Transitioners

	<b>OLS</b>	<b>Fixed Effects</b>
Divorce	-.67** (.18)	-40** (.15)
Divorce*black	.72 (.43)	.74* (.30)
Number of marriages	-.19 (.13)	-.02 (.33)
# marriages*black	.01 (.38)	-.60 (.86)
Yrs since divorce	.10 (.05)	.06 (.05)
Yrs divorce*black	-.18 (.12)	-.10 (.10)
Age	.04 (.03)	-.009 (.03)
Age*black	.05 (.06)	-.004 (.06)
Education	-.25** (.06)	---
Education*black	.08 (.11)	---
Natural log household income	-.13 (.08)	.006 (.04)
Income*black	-.13 (.12)	.02 (.07)
Natural log total wealth	-.13** (.04)	-.08** (.03)
Wealth*black	.05 (.06)	-.01 (.04)
# household members	.10 (.09)	-.12* (.06)
HH members*black	.05 (.19)	.18 (.11)
Black	-3.44 (3.76)	---
Constant	5.94** (1.93)	3.72* (.149)
F	5.53**	2.55**
R <sup>2</sup>	.19	---
Number of obs.	1115	1115