Does gray divorce delay retirement?

by

Sara Stolberg Berkowicz

B.A., State University of New York at Binghamton, 1985
M.S., College for Financial Planning, 2011

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

School of Family Studies and Human Services
College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2019

Abstract

Baby Boomers are the only demographic cohort whose divorce rate increased from 1990 to 2010. All other age groups experienced lower rates of both marriage and divorce. Divorce tends to reduce wealth at the time it occurs, but longer-term effects differ by gender. Divorcing after or just before retiring may have devastating financial consequences for hundreds of thousands of older adults.

Baby Boomers are the largest cohort to face retirement to date. In 2018, 70 million Boomers are age 54 – 72 years old. Yet, most of them have not saved enough to sustain decades-long retirement periods. The short- and long-term economic effects of a massive drop in workforce participation and application for government-paid retirement benefits could be enormous.

This study used the 2014 wave of a large, national representative dataset to look at Baby Boomers in their 60s. Multinomial logistic regression was conducted on a unique outcome variable that combined being retired or not with receiving Social Security benefits or not. A focused selection of predictor variables included demographic, marital status, and other lifecycle-related variables. The "Yes/No" gray divorce variable was merged with the variable measuring divorce recency to unify the context of economic shocks at different lifecycle stages. The regression models were run separately by gender.

Gray divorce was not a significant predictor for any combination of retiring and receiving Social Security benefits. Later-life marital dissolution did not play a role in respondents' retirement behavior. A significant effect was found for divorces that had occurred 13 – 24 years earlier, when respondents were in their 40s. The study has implications for future research, policy, and practitioners.

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Approved by:

Co-Major Professor
D. Elizabeth Kiss

Approved by:

Co-Major Professor
Maurice MacDonald

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Dedication

This dissertation is dedicated to my father and mother, who recently passed away. I know they would be proud of me.

Preface

This dissertation is entirely the work of the author, though she was guided and influenced by her committee members. The opinions expressed are not those of any faculty member at Kansas State University.

All uses of the term “widow” are meant to be gender neutral.

Chapter 1 - Introduction

Fear no more the heat o the sun,

Nor the furious winter's rages;

Thou thy worldly task hast done,

Home art gone and ta'en thy wages

—Shakespeare, *The Tragedie of Cymbeline,* 1623

A divorce is like an amputation, you survive it, but there's less of you.

—Margaret Atwood, *Surfacing,* 1973

The generation advised to "… turn on, tune in, drop out" (Leary, 1966) in the 1960s is now dropping out of the workforce in their 60s. Baby Boomers are the largest cohort in U. S. history to face retirement; every day, thousands of people become eligible to claim Social Security retirement benefits (Munnell & Chen, 2015). The short- and long-term financial effects of a massive drop in workforce participation and a huge increase in applications for government-paid retirement benefits are enormous (Shriver, 2010).

Baby Boomers are also the generation most likely to drop out of marriage (Lin & Brown, 2012). Divorced individuals tend to have saved less for retirement than married persons (Fisher, 2013; Zissimopoulos, Karney, & Rauer, 2015). If Baby Boomers divorce near retirement age, they may not have sufficient resources to sustain them when they leave the workforce. Financial fragility on a large scale may lead to economic fall-out for all generations, if anticipated reductions in Social Security benefits occur (Karraker & Dorius, 2016).

Background

Most Americans do speak of retiring, even if they don't put their money where their mouths are. According to an economic policy organization, 60% of workers in the United States

are confident they will be able to retire (Employee Benefit Research Institute, 2017). Yet, when asked about the aggregate savings and investments of their households, 24% of workers' households have saved less than $1,000 in total, and 47% have saved less than $25,000 (Employee Benefit Research Institute, 2017).

Retirement unreadiness. Many factors have been suggested as causes of insufficient savings for retirement. The elimination of defined benefit plans in the 1990s, which transferred the burden of saving for retirement from employers to employees, left Baby Boomers with fewer years to save than they expected (Collinson, 2014). The Great Recession of 2007-2009 decimated defined contribution plans, and put Baby Boomers further behind their savings goals with retirement looming on the horizon (Collinson, 2014). Almost half of Baby Boomers experienced a decline in the value of their investments and retirement accounts during the Great Recession (Collinson, 2014). Recovery was slow: only 13% of Baby Boomers had recovered financially from the decline by 2014 (Collinson, 2014).

Retirement planning is only a recent priority for Baby Boomers, as the first generation post-abolition of mandatory retirement ages (Roberts, 1986). Unmarried women are less likely to have saved for retirement than unmarried men (Employee Benefit Research Institute, 2017). More than 50% of women who divorce in later life have no savings for retirement at all (Hung & Knapp, 2017; Zissimopoulos, Karney, & Rauer, 2015). Low levels of financial literacy, especially among women, reduce retirement readiness (Mitchell, 2016). Higher health-related expenses than expected are breaking retirement budgets (Shriver, 2010). Only 56% of the American workforce are saving for retirement at present (Employee Benefit Research Institute, 2017).

Unlike enthusiastic yet elderly members of the labor force such as Betty White, Grandma Moses, and Ruth Bader Ginsberg, most people want to stop working and retire. When asked in 2017, the average American planned to retire at age 65 (Employee Benefit Research Institute, 2017). In actuality, the average age at retirement in 2017 was 62 (Employee Benefit Research Institute, 2017). Although many workers anticipate working until age 70 or older, very few retirees work that long. Fewer than 10% of workers expect to retire before age 60, yet almost half of them retire by that age (Employee Benefit Research Institute, 2017).

Another common retirement goal is receiving deferred income in the form of vested Social Security benefits. Most retirees (86%) expect to claim Social Security retirement benefits (Employee Benefit Research Institute, 2017). The benefit does not replace earned income dollar-for-dollar. The average monthly benefit for Social Security recipients in 2018 was only $1,369.18 (Social Security Administration, 2018a). Yet, monthly benefits are a major source of income for 67% of retirees (Employee Benefit Research Institute, 2018).

Divorce reduces wealth. Another factor that may influence the retirement readiness of Americans is divorce (Munnell, Hou, & Sanzenbacher, 2018). Marital dissolution has been shown to be associated with decreased income and decreased net worth post-divorce (Karraker & Dorius, 2016; Palmer, 2015; Tamborini, Iams, & Reznik, 2012). Divorced women tend to be eligible for smaller retirement benefits than married women, widows, and never-married women (Palmer, 2015). Divorcees are much less likely to save for retirement than married individuals (Fisher, 2013; Munnell, Hou, & Sanzenbacher, 2018). It is possible that divorce in the years approaching retirement has an effect on an individual's decision to retire, but it has not been extensively studied.

Growth of gray divorce. Approximately one quarter of U.S. divorces in 2009 were between spouses age 50 and over, also known as "gray divorce" or "later life divorce" (Brown & Lin, 2012). The twofold increase in the rate of later life divorce since 1990 is even more startling because the overall divorce rate has remained the same, meaning that other age cohorts are divorcing less often (Brown & Lin, 2012). Baby Boomers have always experienced higher rates of divorce and re-marriage than other cohorts, and they are continuing the trend in their 50s and beyond (Palmer, 2015). Many researchers concur that a concerning implication of the growth of the gray divorce rate is the increasing number of individuals approaching retirement as divorcees (Brown & Lin, 2012; Butrica & Smith, 2012; Hung & Knapp, 2017; Karraker & Dorius, 2016; Leopold, 2016). Research is just beginning on the phenomenon of gray divorce, but it is essential for social scientists and policymakers to understand its repercussions because the impact on society of an increasing number of divorcing senior citizens could be significant (Bulanda & Brown, 2006).

Statement of the problem. Individuals who divorce after age 50 may face the prospect of a lengthy retirement with fewer assets and lower income, as compared with their married, single, widowed, and earlier-divorced peers. The effects may be more or less pronounced when controlling for other factors, such as gender, education, or health. This study explored the impact of later life divorce on timing of retirement.

Significance. The generation approaching and experiencing retirement now is one of the largest in American history. Whatever affects Baby Boomers can strongly influence our economy and social policies. It is important to understand the influence of divorce on Baby Boomers' decisions to retire. Baby Boomers have had and continue to have the highest divorce rate of any cohort (Iams, Phillips, Robinson, Deang, & Dushi, 2009). If divorced Baby Boomers

retire and take Social Security benefits as soon as they are eligible, their monthly benefit is permanently reduced by up to 25% to 43%, compared with benefits available at full retirement age or later. Low income in retirement may cause Baby Boomers to turn to younger generations for financial support when they (and the Social Security Administration Trust Fund) run out of money. In 2034, when the youngest Baby Boomers will be 70 years old, Social Security programs will have depleted their trust funds (Social Security Administration, 2018c). Baby Boomer retirement behaviors could have implications for other generations for a long time to come.

Introduction to Theoretical Framework

The Lifecycle Hypothesis predicts that people will consume at a rate that considers their lifetime income, resulting in incurring debt at younger ages, wealth-building in middle-age, and dissaving in retirement (Ando & Modigliani, 1963). According to the Lifecycle Hypothesis, there should be a positive relationship between age and being retired. As age increases, the likelihood of leaving the workforce should also increase. Later life marital dissolution may confound that association. Perhaps for those with a more complicated marital biography, the likelihood of retirement at the age of their peers may decrease. This hypothesis has not yet been tested.

Constraints

Although it is important to study the financial implications of gray divorce, there are limitations to this study. Younger cohorts are larger than the Baby Boomers, with their own life experiences, expectations, and marital biographies (Palmer, 2015). So, they may not have the same consumption and savings behaviors as the post-war generation. If Congress changes the

Social Security claiming age, marital duration rules, or other retirement-related laws, then subsequent cohorts will face different challenges than Baby Boomers.

Research Question

Does getting divorced after age 50 affect the age that Baby Boomers retire? This is the research question of this study. The answer may provide an important contribution to a growing body of research.

Chapter 2 - Literature Review

Financial implications of divorce can be serious and may be long-lasting. One example is its possible influence on retirement timing. High rates of divorce among middle-aged and older Baby Boomers can create societal pressures, shape the economy, and influence public policy. Economic consequences of later-life divorce were recognized almost 40 years ago, yet they have not been adequately studied (Cain, 1988; De Vaus, Gray, Qu, & Stanton, 2007; Makidon, 2013). This dissertation extends the line of research, with the Lifecycle Hypothesis of Consumption (Modigliani & Brumberg, 1954) as its theoretical compass.

Theoretical Framework

The Lifecycle Hypothesis of Consumption acknowledges that "today's decisions must be made in recognition of what occurred before and what is expected to occur in the future" (Bryant & Zick, 2006, p.85). This theoretical approach is especially useful in studying the retirement behaviors of divorced individuals. Unlike the fairly consistent economic trajectories of those individuals who remain married or remain single, divorced persons' timelines may be disrupted by the "shock" of divorce. In essence, the research question this study examined is the effect of getting divorced later in the lifecycle on retiring.

Explication of Lifecycle Hypothesis. Modigliani and Brumberg's Lifecycle Hypothesis of Consumption (1954) is often used to guide inquiry into economic behaviors. It proposes that individuals' spending varies according to their estimation of their lifetime consumption goals (Bryant & Zick, 2006). In early working life, to maintain a desired standard of living at entry-level income, spending may be subsidized by debt. In mid-life, income outpaces consumption, allowing repayment of debt and investment for future spending. When work stops, usually later in life, consumption is financed by accumulated unspent income (home equity, retirement

savings) and government payments of withheld earnings (Social Security). No income from employment is received during retirement (Modigliani & Brumberg, 1954).

Essentially, the Lifecycle Hypothesis posits that individuals seek to maximize utility from their income by spreading it over their lifespan to cover consumption needs (Ando & Modigliani, 1963). Components of the Lifecycle Hypothesis include permanent income, consumption, savings, debt, and transitory income (Bryant & Zick, 2006). Permanent income is comprised of current income, expected future income, and net worth. Consumption is defined as a current period activity in which goods are purchased to yield satisfaction in the current period. Savings represent a current period activity to allocate resources in such a manner to provide future satisfaction. Debt is borrowing to pay for consumption or capital investment. Finally, transitory income is any temporary deviation from permanent income.

Modigliani and Brumberg (1954) suggested that the use of income from each source (e.g., wages or assets) will be weighted based on one's preference to use that source of income. Contemporaneous research posited that the propensity to spend one's wages is greater than the desire to spend one's assets (Friedman, 1957). Modigliani and Brumberg's (1954) study found empirical evidence to support their hypothesis that consumption is very responsive to variations in the market value of wealth, which greatly reflects the capitalization of property income. However, Modigliani and Brumberg (1954) suggested that cyclical changes in income, positive or negative, over the long-run result in the saving-income ratio moving in the same direction, positive or negative.

According to Bryant and Zick (2006), when consumers are faced with the same total resources, prices, and interest rates, they will (a) consume the same percentage of permanent income (permanent income is equal in each time period and is the present value of net wealth),

(b) save the same amount of permanent income, and (c) save all transitory income (difference between current income and permanent income). When transitory income is positive, people will save. When transitory income in negative, consumption needs must be met through borrowing from future income (dissaving). Bryant and Zick also point out that, in accordance with the Lifecycle Hypothesis, consumers have fairly consistent consumption over time, but their incomes will vary (2006). Borrowing or dissaving is necessary to finance current consumption needs during periods of low or no income.

Tests of the Lifecycle Hypothesis. Support for the Lifecycle Hypothesis has been reported by numerous studies. Using the University of Michigan bi-annual Health and Retirement Study (HRS) dataset, Love, Palumbo and Smith (2009) saw net worth increase until age 62, when it began to gradually decline. Scholz, Seshadri, and Khitatrakun (2006) found that in 1992, over 80% of HRS respondents were saving for retirement to the degree predicted by the Lifecycle Hypothesis.

Some tests of the Lifecycle Hypothesis have shown stronger evidence of predicting consumer behavior than others, leading to slight modifications in applying the theory's tenets (Lee, Lown, & Sharpe, 2007). One clarification involves the perception of a shock to the system, whether to income, expenditure, interest rates, health, or other statuses. Temporary shocks, such as income windfalls, have not been found to result in changes in consumption (Ando & Modigliani, 1963; Fethke, 1989; Friedman, 1957; Zissimopoulos, Karney, & Rauer, 2015). Permanent additions are spent in proportion to the manner that previous income was spent (Ando & Modigliani, 1963). Permanent decreases in income, such as those occurring due to leaving the workforce at retirement, are associated with reductions in spending and in wealth accumulation (Fethke, 1989).

Age at retirement. The Lifecycle Hypothesis does not predict the exact age that an individual will retire. Workers often cease participating in the labor force when they qualify for a private pension or governmental social security benefits, replacing earned income. By the 1930s, many American private companies and municipal governments paid benefits to retired workers at age 65, while others used age 70 as their retirement age (Soniak, 2012). In 1936, the Social Security Administration began to pay retirement benefits to qualified workers who had attained or surpassed age 65 (Social Security Administration, n.d.). Congress amended the law in 1956 to pay reduced benefits to female workers, wives, and widows at age 62; it amended the Act again in 1961 to allow male workers to retire at 62 (Social Security Administration, n.d.). In 1971, the Supreme Court ruled in DeCastro v. Weinberger that a female divorcee could receive benefits based on her ex-husband's record at age 62 (Social Security Administration, n.d.). In 1983, President Reagan signed legislation setting full retirement age for workers and their spouses born after 1942 to age 66 or 67 (Social Security Administration, n.d.).

Retiring at age 62 and 65 is consistent with Social Security Administration rules providing reduced retirement benefits at age 62 and full benefits at age 65 for people born before 1943 (Social Security Administration, n.d.). Baby Boomers, born in the years spanning 1946 to 1964, were raised and began their work lives when full Social Security benefits could be claimed at age 65. Yet, Baby Boomers do not appear to have re-calibrated their expectations of retirement timing. The age at which Americans most frequently report retiring is 62; the second most frequent age is 65 (Board of Governors of the Federal Reserve System, 2017).

Research confirms ages 62 and 65 as the most common times to retire (Love, Palumbo, & Smith, 2009; Palmer, 2015). In 2016, the average American planned to retire at age 65 (Employee Benefit Research Institute, 2017). In actuality, the average age at retirement in 2017

was 62 (Employee Benefit Research Institute, 2017). The disparity between expected retirement age and actual retirement age also holds true for early and delayed retirements: 38% of workers anticipate continuing to work until age 70 or older, but in 2017 just 4% of retirees continued working that long (Employee Benefit Research Institute, 2017). Only 9% of people currently working report that they expect to retire prior to their 60th birthday, yet 39% of retired persons stopped working before age 60 in 2017 (Employee Benefit Research Institute, 2017). The disconnect between expected retirement date and actual retirement date is often due to unforeseen circumstances (Employee Benefit Research Institute, 2017). Reasons for an earlier retirement include personal medical problems, workplace issues, job elimination, increased caregiving responsibilities, and adequate savings (Employee Benefit Research Institute, 2017).

Social Security retirement benefits. Financial planners have long used the analogy of the three-legged stool to depict sources of income for retirees (Murray, 2017). The three legs are employer pensions, Social Security benefits, and personal savings (MacDonald, Jones, Morrison, Brown, & Hardy, 2013). Baby Boomers are not likely to receive pensions from employment (Lown, 2008), though 73% are covered by employer retirement plans funded by employee contributions (Employee Benefit Research Institute, 2017). Almost half of all workers in America had less than $25,000 in savings in 2017 (Employee Benefit Research Institute, 2017). Without a guaranteed stream of lifelong income from company pensions, and with inadequate savings from their own contributions, Social Security retirement benefits remain an important resource for retiring Americans (Sullivan, 2013).

Eligibility requirements. Workers who have earned 40 credits from employment, self-employment, farming, military service, and/or some governmental jobs, and who have reached the retirement age corresponding to their year of birth are eligible for a retirement benefit on

their own earnings (Social Security Administration, 2017b). Each credit represents $1,300 of qualifying earnings from the employment categories listed. Up to four credits can be earned per year. The higher the earnings (up to an annually increased cap), the higher the retirement benefit. The actual benefit amount is based on the highest 35 years of earnings and the age that the benefit is claimed.

In 2014, the maximum retirement benefit payable was $2,642 per month for a worker who had reach full retirement age. Benefits are paid for the rest of the worker's life. If the worker dies with a qualifying surviving spouse and/or qualifying unmarried ex-spouse(s), each of them can receive a survivor's benefit equal to the worker's benefit at the time of his/her death.

Married individuals who do not have enough credits on their own record can receive a retirement benefit based on their spouse's worker record. A spouse can receive 50% of the amount of the benefit that the worker has earned as of the date the spouse files a claim. The worker's benefit is not reduced in order to pay the spousal benefit. If the spouse qualifies for a benefit on his/her own work record, the spouse will receive whichever benefit is larger at the time of claiming: the spousal benefit, or his/her own retirement benefit. For example, if a low-earning spouse born in 1948 filed for a Social Security retirement benefit on his/her 66th birthday in the year 2014, and his/her high-earning 66-year old spouse was still alive and fully qualified to claim benefits, the low-earning spouse received $1,321 per month as the spousal benefit on the high-earning spouse's record. The spousal benefit is greater than the $845.00 per month he/she would have earned on his/her own record (assuming he/she had earned $20,000 per year for 20 years).

Widowed individuals can claim a reduced survivor's retirement benefit based on their deceased spouses' record as early as age 60, as long as they have not yet re-married. As with

married individuals, widows receive the larger of their own benefit or their deceased spouse's benefit. The amount of the survivor's benefit is determined by the earnings record of the deceased worker. The survivor benefit at the widow's full retirement age is 100% of the retirement benefit amount that the worker had earned at the time of his/her death. The median widow's benefit in 2010 was $1,207 per month (Weaver, 2010).

Divorced persons are eligible for a spouse's retirement benefit on their ex-spouse's earnings record if the marriage had lasted at least ten years. In addition, the divorcee must be unmarried at the time of claiming the benefit. If the worker ex-spouse has not yet begun receiving a retirement benefit but is age 62 or older, the divorcee can file a spousal claim if they have been divorced for at least two years. Similar to married individuals and widows, divorcees can choose to claim their own benefit (if any) or the spousal benefit. Retirement benefits for a divorced spouse do not reduce the worker's benefit. In fact, the worker is not notified when the ex-spouse files a claim on his/her record (Social Security Administration, 2018b).

Ex-spouses are also entitled to survivor benefits if they had been married ten years or longer and are unmarried at the time of the worker's death. In 2009, the last year that the U. S. government reported this statistic, the median marriage duration in the United States was eight years (Kreider & Ellis, 2011). The median age of Americans older than 15 at first marriage for those born after 1993 was 27, and the median age at divorce was 30 (Kreider & Ellis, 2011). For Baby Boomers in 1975, the median age at first marriage was 22.3 (Bouvier & De Vita, 1991).

The 10-year rule for claiming Social Security retirement benefits on a former spouse was observed to have an effect on the timing of divorce for older people who have fewer years to recover economically (Dillender, 2016). As individuals age, divorces are more likely to occur after ten years (Dillender, 2016). In unions where the wife was 25 years old at the date of

marriage, only 2.0% of couples divorced just after ten years, while for couples where the wife was age 44 or older at the onset of marriage, 23.0% of couples divorced right after the ten-year mark (Dillender, 2016). The study used Baby Boomers as its sample population (Dillender, 2016).

Effect of age on claiming benefits. A full retirement benefit is available at age 66 to qualifying workers born from 1943-1954. Surviving spouses can also receive a full benefit at age 66 if they were born in those years. Spouses and qualifying ex-spouses who were born from 1943-1954 are entitled to a retirement benefit at age 66 of 50% of the qualifying worker's benefit at the time that the spouse or ex-spouse files the claim for benefits.

After they have earned 40 credits, workers can claim Social Security retirement benefits as early as age 62. However, the benefits are reduced because they will be paid for a longer period of time. Workers who were born from 1943 to 1954 reach full retirement age at 66. In other words, between ages 65 and 76 in 2019. If they claim their retirement benefit at age 62, it is reduced by 25%. Workers who were born from 1955 to 1959 have a full retirement age of 66 years and two months to age 66 years and 10 months. If they claim their retirement benefit at age 62, it is reduced by 25.83%–29.17%. Workers who were born in 1960 and later attain full retirement age at 67. If they claim their retirement benefit at age 62, it is reduced by 30% (see Appendix A). Retiring between age 62 and full retirement age results in a reduction in benefits. The full retirement benefit is decreased by 5/9% per month for up to 36 months before full retirement age and 5/12% per month afterwards.

Spouses and ex-spouses of eligible workers can also claim reduced retirement benefits at age 62. Spousal benefits are 50% of the benefit the worker has qualified to receive at his/her full retirement age, at the time of the spousal claim. Early spousal retirement benefits at age 62 are

further reduced by another 30% to 35%, depending on the birth year of the spouse. Workers who were born in 1943-1954 reach full retirement age at 66; if a spouse or ex-spouse claims a benefit at age 62, the worker's benefit is reduced by 50%, then reduced by another 30%. Workers who were born in 1955-1959 have a full retirement age of 66 years and two months to age 66 years and 10 months; if a spouse or ex-spouse claims a benefit at age 62, their benefit is 50% of the worker's benefit minus another 30.83%-34.17%. Workers who were born in 1960 and later attain full retirement age at 67; if a spouse or ex-spouse claims a benefit at age 62, they receive 50% of the worker's benefit, less another 35% (See Appendix A.)

Conversely, if a worker has 40 credits at full retirement age but delays claiming his/her retirement benefit, the monthly benefit amount will be higher because it will be paid for a shorter time. Workers born after 1942 receive a bonus of 8% for each year after full retirement age that they delay receiving benefits. The maximum bonus credit is 32% for workers born in 1943-1954, 25.33%-30.67% for workers born in 1955-1959, and 24% for workers born after 1959 (See Appendix B.). Spouses and ex-spouses do not receive a bonus for claiming retirement benefits after full retirement age (Social Security Administration, 2019).

Connection between onset of retirement and initiating Social Security benefits. Leaving the work force and applying for Social Security benefits are separate but related decisions (Hubener, Maurer, & Mitchell, 2016). Approximately 75% of Americans were found to have claimed Social Security benefits within two years of leaving the work force (Shoven, Slavov, & Wise, 2017). Eighty-five percent of retirees receive Social Security benefits (Board of Governors, 2017). Some experts advise consumers to initiate both behaviors simultaneously (Hubener, Maurer, & Mitchell, 2016), while others advise delaying Social Security benefits until age 70, no matter when the labor force exit occurs (Gustman & Steinmeier, 2015).

Health and retirement. Poor health has been associated with early withdrawal from the labor force (Chang, 2018; Karraker & Dorius, 2016) and with claiming Social Security benefits as early as possible (Shoven, Slavov, & Wise, 2017). A meta-study of retirement timing decisions found that the most commonly reported motivation to leave the workforce before age 65 was ill health (Fisher, Chaffee, & Sonnega, 2016). One study found that husbands whose wives had poor health retired early (Wang & Matz-Costa, 2018). Regardless of gender, workers who rated their health as fair to poor were 86% less likely to be working at age 60 (McNamara & Williamson, 2004). Conversely, employment at age 65 and older was associated with good to excellent health (McDonough, Worts, Corna, McMunn, & Sacker, 2017).

Caregiving and retirement. Time spent caring for family members often reduces labor force participation and has been observed to hasten retirement (Chang, 2018; Leigh, 2010; Sullivan, 2013). Women are much more likely than men to cite caregiving responsibilities as grounds for working fewer hours (Lee & Tang, 2013) and for retiring early (Van Houtven & Coe, 2013). Increasing longevity is expected to exacerbate caregiving responsibilities for women (Unuigbe, Lee, Vaughon, Kaufman, & Gallo, 2017).

Marriage and wealth. Marriage has been shown to impact net worth positively (Palmer, 2015; Zissimopoulos, Karney, & Rauer, 2015). Married couples spend for two, whether during their work lives or their retirement, so it is logical to assume they would have higher net worth than unmarried individuals (Zissimopoulos, Karney, & Rauer, 2015). Both male and female spouses have higher wealth than their unmarried gender counterparts in their pre-retirement years (Palmer, 2015; Zissimopoulos, Karney, & Rauer, 2015). Wealth has been predicted by marital status in many studies (Karraker & Dorius, 2016; Lin, Brown, & Hammersmith, 2015; Palmer, 2015; Wilmoth & Koso, 2002; Zissimopoulos, Karney, & Rauer, 2015). Because there are so

many permutations of wealth and of marital history, the statistical strength of the association invites closer investigation (Zissimopoulos, Karney, & Rauer, 2015).

As reviewed by Commuri and Gentry (2005), family financial research has long assumed that married couples unite their assets. Following on Lazear and Michael's (1988) landmark publication "Allocation of Income Within the Household," a cross-cultural study found that it cannot be assumed that married couples are of one mind regarding income and consumption decisions (Doss, 1996). Bargaining, spending in proportion to income added to the household, and collaborative decision-making models have also been explored (Himmelweit, Santos, Sevilla, & Sofer, 2013). Qualitative and quantitative studies of Baby Boomers have observed asset pooling ratios of 50% (Commuri & Gentry, 2005) to 82% (Klawitter, 2008). Marital duration is positively associated with wealth accumulation (Crown, Mutschler, Schulz, & Loew, 1993; Lin, Brown, & Hammersmith, 2015).

Conversely, divorce is negatively associated with net worth (Fethke, 1989; Ruel & Hauser, 2013). Divorcees not only stop pooling resources with a spouse; the transaction costs of marital dissolution can reduce net worth as well (Fethke, 1989). Widows can retain the entire marital estate while those who become single due to divorce keep only the assets assigned in the marital settlement agreement.

Divorce disrupts. According to the Lifecycle Hypothesis, marital dissolution is a shock to the system. As such, divorce should have a transitory effect on consumption and saving until a new equilibrium is set. The change in circumstances, although perhaps temporary, can have a permanent effect on future economic conditions, i.e., retirement expectations. Getting divorced may delay retirement beyond the expected age.

Depending on the individual's perception of the permanency of the shock, consumption may or may not change when an individual is divorced (Zissimopolous, Karney, & Rauer, 2015). For example, the expenses required to dissolve a marriage are generally unplanned; in economic terms, they are temporary expenses that may not be associated with a concomitant reduction in spending (Zissimopolous, Karney, & Rauer, 2015). They may, however, reduce savings available for retirement that may not be replenished (Fethke, 1989).

The relationship between consumption and a disruption's otherwise perceived permanency may vary by age. Younger divorcees may expect to remarry or to increase their own income prospects, and so consider their financial hardship to be temporary (Fethke, 1989). Older divorced persons may reckon on a low likelihood of remarriage or increased labor force prospects, resulting in permanent dependence on their own income (Fethke, 1989). Lower income with sustained or greater spending incurs debt and reduction of assets as experienced in youth. To avoid those consequences, older divorced individuals may decide to postpone retirement until they perceive they can afford to stop working (Fethke, 1989).

Marital dissolution is usually accompanied by a reduction in income and an increase in consumption (Fethke, 1989). The reduction in income can stem from the absence of the former spouse's wage contributions to the household, from decreased investment returns on assets transferred pursuant to the divorce or dissipated due to legal expenses, and from a decline in wages from lower workforce participation caused by greater household responsibilities after the divorce. According to the Lifecycle Hypothesis, this double-whammy should have a transitory effect on consumption and saving until a new equilibrium is set. The change in circumstances, although perhaps temporary, can have a permanent effect on future economic conditions, i.e.,

retirement expectations. Getting divorced may delay retirement compared to the divorcee's married, single, or widowed peers.

Regardless of marital status, retirement adequacy has been shown to depend on continued positive cash flow, not accumulated net worth (Kim, Hanna, & Chen, 2014; Yuh, Montalto, & Hanna, 1998). In other words, marital status was not a significant factor in saving for retirement. Although some studies have found that women earn more after their marriage is dissolved (McKeever & Wolfinger, 2001; Tamborini, Iams, & Reznik, 2012), others have observed the labor force income of divorced women to be much lower than men or than married women (Butrica & Iams, 2000; Lown, 2008; Poterba, 2014; Ruel & Hauser, 2013; Sharma, 2015).

Diagrams of the theoretical model and this study. The classical model as predicted by the Lifecycle Hypothesis is shown in Figure 2.1. The Lifecycle Hypothesis posits consumption that exceeds income in an individual's earlier years of life, incurring debt to sustain a lifestyle. During peak earning years of adulthood, income outpaces expenses, allowing savings for retirement. In late life, individuals exit the workforce which reduces earnings to zero, so expenses are paid from savings.

Figure 2.1 Consumption Progression of Individuals as Predicted by the Lifecycle Hypothesis

Figure 2.1. Illustration of the Lifecycle Hypothesis. Inspired by "The 'Life Cycle' hypothesis of saving: Aggregate implications and tests," by A. Ando, & F. Modigliani, 1963, *The American Economic Review, 53.*

The empirical model of the proposed hypothesis guided by the Lifecycle Hypothesis is shown in Figure 2.2. As predicted in the classical model, consumption at younger stages is supported by debt due to expenses being greater than income, and earnings exceed expenses in mid-life. When divorce occurs after age 50, the shock of the decrease in marital assets, expenses of maintaining a separate household, and lack of a spouse's income or childcare contribution is hypothesized to delay retirement.

Figure 2.2 Consumption Progression of Individuals as Hypothesized by the Study

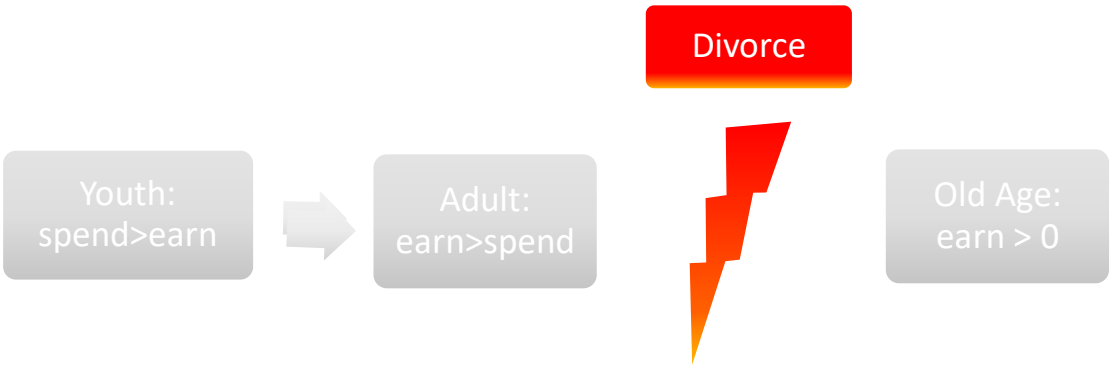

Figure 2.2. Illustration of the study's research hypothesis, using the symbology created to describe the Lifecyle Hypothesis as shown in Figure 2.1. Author's work.

Baby Boom Generation

The population of interest for this study is the Baby Boom generation. It has surpassed previous generations in many ways, including its size, its influence on the economy, and its attitudes toward freedom, both in society and personally. Issues that affect Baby Boomers may have repercussions for future generations.

Historical context. The cohort born in the years following World War II has come to be known as the Baby Boom generation. Most sources agree that the birth years of 1946 through

1964 define the cohort, although some extend the range by a year or two (Butrica & Smith, 2012; Shriver 2010). It gets its name from the fact that there were 41% more offspring born per female of child-bearing years in 1959 than were born in 1934 (Greenwood, 2005). On average, about four million children were born per year during the span of the generation (Colby & Ortman, 2014). By 2011, when the oldest Baby Boomers began to reach age 65, they numbered approximately 77 million (Colby & Ortman, 2014). The sheer size of this cohort engenders importance to later-life issues (Applebaum & Cummins, 2017).

Economic characteristics. The Baby Boom generation differs from previous cohorts in more than size. Unlike their thrifty parents who came of age during the Great Depression (Karraker & Dorius, 2016; Lown, 2008; Lusardi, Mitchell, & Oggero, 2017), Baby Boomers have been great consumers (Lee, Lown, & Sharpe, 2007). Their incomes increased as the economy experienced tremendous expansion in the last two decades of the 20th century, fueling concomitant growth in consumer spending (Benson & Hiller Connell, 2014). Spending levels are projected to continue into Baby Boomer retirement, as predicted by the Lifecycle Hypothesis (Sullivan, 2013; Yoo, 1994).

To finance their high consumption, Baby Boomers have incurred debt to a much greater extent than earlier generations (Lee, Lown, & Sharpe, 2007). In fact, in the early 2000s, they were the generation most likely to go bankrupt (Lee, Lown, & Sharpe, 2007). Baby Boomers are more likely to carry debt into retirement than prior cohorts: 71% of the oldest Baby Boomers held debt at age 62, versus 64% of their parents' generation at that same age (Lusardi, Mitchell, & Oggero, 2017). Baby Boomer debt loads at age 62 of $32,700 in 2015 dollars were almost five times higher than the previous generation, who owed $6,800 at age 62 (Lusardi, Mitchell, & Oggero, 2017). When comparing Baby Boomers in their 50s and 60s to older cohorts at those

ages in the Health and Retirement Study, researchers found that the younger generation held more debt compared to their assets and "were significantly more financially vulnerable" (Lusardi, Mitchell, & Oggero, 2017, p.15). Financial vulnerability was conceptualized in the study as the risk that high levels of debt pose to retirees on fixed incomes (Lusardi, Mitchell, & Oggero, 2017).

More than 80% of Baby Boomers have participated in the labor force during their adult years as measured at ages 25-54 (Toossi, 2012). The employment of 77 million individuals created remarkable growth in the labor force (Toossi, 2012). But in the last decade of the 20th century, the employment growth rate declined by 50%, from 2.6% in the 1970s to 1.3% in the 1990s, after the youngest Baby Boomers had entered the job market (Toossi, 2012). As they neared and entered retirement in 2010, Baby Boomers' departure from the work force had shrunk the labor force growth rate by another 40%, to 0.8% in 2010 (Toossi, 2012).

Baby Boomers are much less prepared for retirement than the previous generation (Munnell, Webb, & Golub-Sass, 2007). Baby Boomers' overall savings rate is lower than the generation that preceded them (Applebaum & Cummins, 2017). Approximately one-half of unretired Baby Boomers who earn less than $40,000 per year had no retirement savings in 2016 (Board of Governors of the Federal Reserve System, 2017). Often cited as evidence of inadequate savings, the median retirement account balance for households led by pre-retirees age 55-64 in 2010 was $100,000 (Rhee, 2013). The 2008 Recession drastically reduced the value of Baby Boomer 401(k) plans, and a large number of accounts had not returned to their pre-Recession levels by 2017 (Applebaum & Cummins, 2017).

The Employee Retirement Benefit Institute (EBRI), a non-profit organization that studies and supports policy initiatives that aid workers, created a scale that estimates retirement savings

adequacy (Vanderhei, 2015). They estimated the burden that living expenses, out-of-pocket medical payments, and nursing home costs would incur during decades of retirement (Vanderhei, 2015). Shortages in personal savings, projected Social Security benefits, employee-contribution retirement plans, and other resources were similarly forecasted (Vanderhei, 2015). Results were not annualized, since the study's primary objective was policy implications (Vanderhei, 2015).

In 2014, as shown in Figure 2.3, EBRI reported that the average Baby Boomer married couple (born before 1955) lacked $19,304 in savings per spouse to meet their total financial needs throughout retirement (Vanderhei, 2015). For currently single males, whether never married, divorced, or widowed, the shortfall was $33,778 (Vanderhei, 2015). For currently single females, the savings shortfall was $62,734 (Vanderhei, 2015). The deficits were similar for Baby Boomers born 1955-1964 (Vanderhei, 2015).

Figure 2.3 Retirement Savings Shortfalls in 2014 by Age Cohort, Marital Status, and Gender

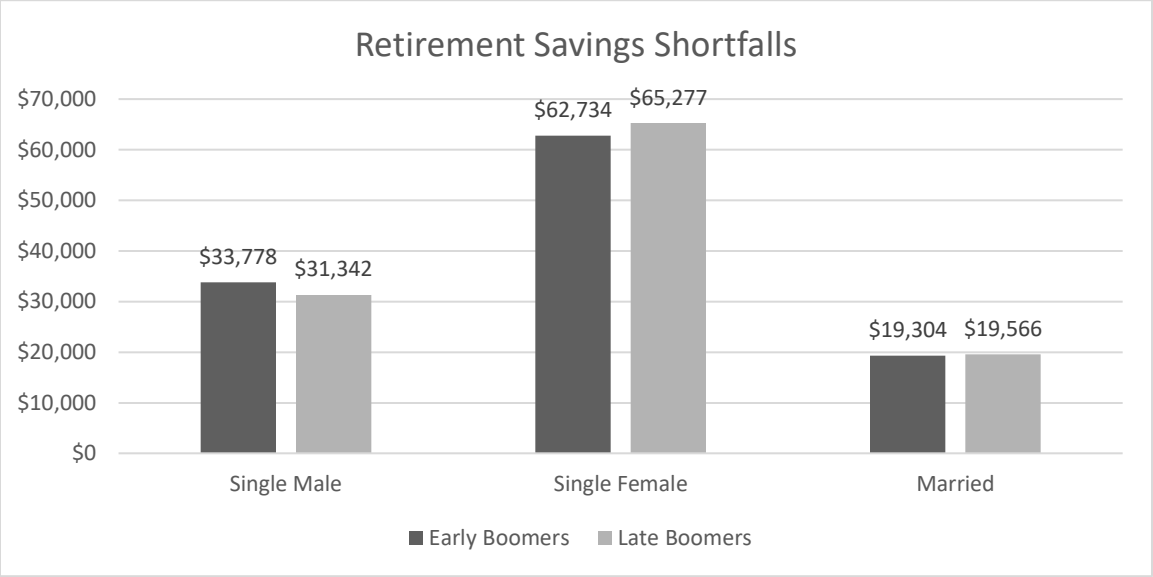

Figure 2.3. Comparison of retirement savings shortfalls in 2014 between single men, single women, and married individuals by age cohort. Adapted from "Retirement Savings Shortfalls: Evidence from EBRI's Retirement Security Projection Model®," by J. Vanderhei, 2015, *EBRI Issue Brief, 410*, p. 6. Copyright 2015 by Employee Benefit Research Institute. Used with permission (applied for).

If individuals whose retirement savings are adequate are removed from the population being measured, then average shortfalls increase dramatically. Among those who had a deficit in retirement savings, the average early Baby Boomer married couple (born 1948-1954) had a shortfall of $71,299 in savings per spouse (Vanderhei, 2015). For currently single males, whether never married, divorced, or widowed, the shortfall was $93,576 (Vanderhei, 2015). For currently single females, the savings deficit was $104,821 (Vanderhei, 2015).

Unanticipated longevity. In 1954, when Modigliani and Brumberg proposed their theoretical model, the average American male baby was expected to live to age 66; in 2017 life expectancy for newborn males was 76 years (Bell & Miller, 2017). Lifespans of 90 years or more are statistically likely for 50% of married Baby Boomers (Franklin, 2016). A worker may enter the labor force at age 22, work until 65, and live until 92. Modigliani and Brumberg did not anticipate a retirement stage of consumption that could approach the duration of the period of employment. The costs of supporting a permanent lifestyle for greater than the planned length must be accommodated with either longer periods of employment, reduced consumption during any or all life stages, or increased distributions from retirement savings (Iams, Phillips, Robinson, Deang, & Dushi, 2009). Otherwise, more debt ensues and potentially a reliance on support from social service agencies, charities, subsidized housing, and the like.

Marital biography. The Baby Boom generation can be characterized as having a high level of marital instability, due to their high divorce and remarriage rates (Kennedy & Ruggles, 2014). Their complex sequences of singlehood, marriage, divorce, remarriage, and widowhood are unique compared to earlier cohorts (Palmer, 2015). In addition, their marital histories differ from previous generations in other respects. They married later, divorced more frequently, and remained single more than earlier generations (Karraker & Dorius, 2016).

Baby Boomers married for the first time at older ages than the generation before them (Iams, Phillips, Robinson, Deang, & Dushi, 2009). The median age of first marriage has been trending upward since Baby Boomers reached adulthood (U.S. Census, 2017). In 1965, before the first Baby Boomers turned 20, the median age of first marriage for men was 22.8 years old, and for women it was 20.6 (U.S. Census, 2017). By 1985, when the youngest Baby Boomers

were 20 years old, the median age of first marriage for men was 25.5 years old, and for women it was 23.3 (U.S. Census, 2017).

Historically, the U.S. overall divorce rate was about 7% in 1880 (Martin & Bumpass, 1989). It increased slowly except for a surge attributable to the second World War and started a more precipitous climb in the 1960s (DaVanzo & Rahman, 1993). The divorce rate was 18% in 1960, and reached 46% in 1979 (DaVanzo & Rahman, 1993). It surpassed 50% in the 1980s (Martin & Bumpass, 1989). Since then, it has declined to 45% (Brown & Lin, 2012).

The steep increase in the divorce rate occurring after 1970 is due to the marital behavior of the Baby Boom generation (Kennedy & Ruggles, 2014). More Baby Boomer marriages dissolved than in previous cohorts (Iams, Phillips, Robinson, Deang, & Dushi, 2009; Stepler, 2017). Baby Boomers have re-married more frequently than other generations during their lifetimes, but these unions are more likely to end in divorce than first marriages, further increasing the overall divorce rate (Iams, Phillips, Robinson, Deang, & Dushi, 2009). The spike in the divorce rate during the 1940s is an artifact of WWII (DaVanzo & Rahman, 1993). Younger cohorts have lower divorce rates, pushing the national divorce rate downward in 2015 (Stepler, 2017).

Prior Financial Planning Research

Previous work on divorce and marriage. The financial implications of divorce have been studied by economists and other social scientists since at least the 1980s (Tamborini, Iams, & Reznik, 2012). Early research found that recently divorced individuals experienced a decrease in earnings resulting in lower savings (Fethke, 1989). Australian researchers also observed that in that country, divorced individuals had lower income than always-singles or married individuals, as well as lower net worth and greater economic difficulties (De Vaus, Gray, Qu, &

Stanton, 2007). A U.S. longitudinal study showed that the short-term effects of divorce have decreased in their severity from the early 1980s to the late 2000s (Tach & Eads, 2015). In Canada, women in the lowest income quintile who divorced after age 54 had proportionately less income in their 70s than married, widowed, or always single women (LaRochelle-Côté, Myles, & Picot, 2012). High income Canadian women were negatively affected to a severe extent, because they lost greater amounts of retirement resources (LaRochelle-Côté, Myles, & Picot, 2012). The same study found no negative financial implications for men divorcing after age 54, and saw positive economic outcomes for males becoming widows after that age (LaRochelle-Côté, Myles, & Picot, 2012).

"The Divorce Revolution" By the 1980s, the financial fall-out from marital dissolutions began to become more noticeable in American society, prompting studies on the economic implications of no-fault divorce (Peterson, 1996). Lenore Weitzman's ground-breaking book "The Divorce Revolution" (1985) was an early seminal work in the field. She described bifurcated results of divorce by gender, where women and children lived in poverty while their ex-husbands raised their standard of living by 42% (Weitzman, 1985). The study was publicized by media outlets, peer reviewed journals, and the legal press (Peterson, 1996). It impacted family law legislation and judicial decisions across the country for years (Peterson, 1996).

Subsequent studies argued with Weitzman's methodology, data set, and analysis (Peterson, 1996). Researchers replicated her study with less pronounced yet still imbalanced outcomes. Men had higher income and wealth after divorce than women, and women experienced a decline in their standard of living (Peterson, 1996). Compared to their pre-divorce resources, net income of divorced mothers was much lower (Del Boca & Flinn, 1994).

Effects of divorce on retirement. As reviewed by Palmer (2015), researchers have observed that single divorcees receive smaller Social Security retirement benefits than married, never-married, and re-married individuals. A study of 55-74 year-olds in Australia found that those individuals who were divorced and were single at the time of the study had lower income and net worth than married individuals (De Vaus, Gray, Qu, & Stanton, 2007). Being divorced and single was associated with greater dependence on the Australian Social Security system than being married (De Vaus, Gray, Qu, & Stanton, 2007). Married and re-married respondents had statistically similar financial situations (De Vaus, Gray, Qu, & Stanton, 2007). The study grouped all divorced participants together, regardless of age at divorce.

In the 1998 wave of the Health and Retirement Study, 51-56 year-olds who divorced lost over 60% of their wealth (Sullivan, 2013). Widows' wealth decreased to a much lesser degree upon their spouses' deaths (Sullivan, 2013). Declines were significant for whites and for respondents with higher net worth (Sullivan, 2013). The study's author did not investigate the reasons that the declines differed from a 50/50 division of marital assets that is common and often required in divorce. Survey data was collected before the recessions in the 21st century, and did not include individuals closer to retirement. Only one-third of the sample were Baby Boomers.

Recently, researchers using the 2010 wave of the Health and Retirement Study found that divorced 51-56 year-olds were three times more likely to have negative net worth than married 51-56 year-olds (Karraker & Dorius, 2016). This effect was not as strong for income (Karraker & Dorius, 2016). Participants were younger than age 57 so the impact of divorce on retirement timing could not be measured. In retrospect, wealth was measured during the nadir of the Great Recession of 2008, an unusually sudden low point in the financial markets.

Gray Divorce

The Lifecycle Hypothesis of Consumption proposes that in the final stage of their life course, individuals exit the labor force and spend down their savings until they die. Divorce can reduce savings due to the reassignment of assets to the former spouse, transaction costs, lower income during the dissolution process, expenses for establishing a separate household, and unavailability of the former spouse's income and/or child care contribution (Fethke, 1989; Makidon, 2013). A shock of that type, close to retiring, leaves little time to rebuild savings before leaving the workforce, potentially leading to financial frailty (Makidon, 2013). If Baby Boomers continue to divorce frequently at ages close to retirement, many may suffer financially, exacting a significant toll on the social welfare system and influencing the economy (Hayes & Anderson, 1993; Makidon, 2013).

Definition. The term "gray divorce" was not named for the Australian researcher Matthew Gray, who studied "the financial consequences of divorce for older people" (De Vaus, Gray, Qu, & Stanton, 2007). Instead, the term was recently coined by social gerontologists Susan Brown and I-Fen Lin, of Bowling Green State University in Ohio (Brown & Lin, 2012). They drew attention to "the divorce rate among middle-aged and older (i.e., aged 50 and older) adults" because "research to date has essentially ignored" this cohort (Brown & Lin, 2012, p.731).

Forecasted trend. Researchers predicted the growth in divorce of older couples as early as 1981 when the oldest Baby Boomers were 35 years old (Cain, 1988). Yet there have been few peer-reviewed studies exploring the phenomenon (De Vaus, Gray, Qu, & Stanton, 2007; Kingston, 2007). Until recently, studies of older respondents have grouped divorcees with widows and always-singles, so there has been little research that highlights the unique challenges faced by people over age 50 or 60 who divorced and did not remarry (Lin & Brown, 2012).

Although the incidence of divorce after age 50 is growing, it is still far less common than intact marriages (Lin, Brown, & Hammersmith, 2015).

Unique to Baby Boomers. Gray divorce has been attributed to the Baby Boom generation's unsurpassed diversity in their marital status (Palmer, 2015), longer life expectancy (Canham, Mahmood, Stott, Sixsmith, & O'Rourke, 2014), female workforce participation (Balestrino, Ciardi, & Mammini, 2013), decline of widowhood (Brown & Lin, 2012), and the deterioration of the taboo against divorce in society (Wu & Schimmele, 2007). These trends will continue, so gray divorce is forecast to grow as well (Brown & Lin, 2012). As thousands of Baby Boomers turn 65 every day from now through 2030, the number of gray divorces in the United States will likely rise accordingly (Lin, Brown, & Hammersmith, 2015).

Seminal work. The seminal work in this area of study is Brown and Lin's "The Gray Divorce Revolution" (2012). Brown and Lin compared United States Vital Statistics records from 1990 with data from the 2010 American Community Survey (2012). They found that the divorce rate for Americans under 50 years old was declining, while marriages were also decreasing (Brown & Lin, 2012). The reason that the national divorce rate was still approximately 45% was due to a doubling of divorces for Americans age 50 and up (Brown & Lin, 2012). Growing from about 5 divorcees out of 1,000 married people in 1990 to about 10 in 1,000 in 2010 (Brown & Lin, 2012). More than 640,000 persons in the over 50 age group in 2010 had been divorced in the previous 12 months, compared with about 206,000 who had gotten divorced in the 1990 survey (Brown & Lin, 2012). Put another way, less than 10% of people who dissolved their marriages in 1990 were at least 50 years old. The divorce rate for people age 50 and older increased to over 25% in 2010 (Brown & Lin, 2012).

Although the divorce rate for retirees had been less than 5%, seniors age 65 and older in the study got divorced in 2010 at twice the rate as they did in 1990 (Brown & Lin, 2012). The divorce rate doubled for the 50-64 age group as well as for those over age 65 (Brown & Lin, 2012). Almost 530,000 adults in the 50-64 age group divorced in 2010; over 113,000 people age 65 and older got divorced that year (Brown & Lin, 2012).

If the incidence of divorce persists at the current rate, many more senior citizens will be dissolving their marriages in the future. Using United States Census data, Brown & Lin projected that in 2030, over 825,000 people aged 50 and older would get divorced (2012). If the rate continues to rise instead of remaining constant, the number of elderly divorce filers in the coming years will be much higher than 825,000 (Brown & Lin, 2012).

Worldwide pervasiveness. The gray divorce phenomenon is not just occurring in the United States. Although Canada does not track divorces by age the only cohort in Canada with an increasing divorce rate in the 1991-2001 period was the age 50 and older group, doubling for individuals aged 50-59 (Kingston, 2007). The United Kingdom, Italy, and France have also reported notable increases in gray divorce rates (Kingston, 2007).

In Japan, *jukunen rikon* ("mature divorce") has become a recognized consequence of retirement, featured on TV and in the bestselling book "Why Are Retired Husbands Such a Nuisance?" (Kingston, 2007). The rapid increase of later-life divorce gave rise to descriptive expressions such as "'*nure ochibarikon*' (divorce due to husbands being wet leaves that stick around even after sweeping), or '*taishoku-kin rikon*' (retirement pension divorce)" (Kamagai, 2007, p. 125). Break-ups of Japanese long-term marriages (over 20 years) grew from 2,479 divorces in 1947 to 21,718 in 1990, almost doubling to 41,958 dissolutions in 2004 (Kamagai, 2006). The divorce rate among marriages of at least 20 years duration in Japan increased from

3.1% in 1947, to 13.8% in 1990, to 16.3% in 2004 (Kamagai, 2006). The elevated dissolution rate of long-duration marriages has been attributed to Baby Boomers, who cite incompatibility rather than financial reasons for divorce (Kamagai, 2006).

Studies of divorcees' finances. Researchers have observed that divorcees receive smaller Social Security retirement benefits than married, single, and re-married individuals (Hubener, Maurer, & Mitchell, 2016; Palmer, 2015). A study of 55-74 year-olds in Australia found that being divorced and single was associated with greater dependence on the Australian Social Security system than married persons (De Vaus, Gray, Qu, & Stanton, 2007). There was no significant difference in the financial profile of married and re-married individuals (De Vaus, Gray, Qu, & Stanton, 2007). The study did not control for respondent's age at divorce.

In the United States, divorced 51-56 year-old Baby Boomers did not exhibit a statistically significant difference in income from employment, compared with workers of other marital statuses, according to an analysis of 2010 HRS survey respondents (Karraker & Dorius, 2016). The study did not look at retiring or retired respondents. Wealth measures were taken immediately after the Great Recession of 2008, which was a severe but not permanent shock to net worth.

Divorce disparately disadvantages women. Research in the United States has shown that women are more affected financially by divorce than men (Dew, 2009; Zagorsky, 2005). Similar findings have been observed in Canada (LaRochelle-Côté, Myles, & Picot, 2012). The magnitude of the disparity has decreased in recent decades as women's labor participation has grown (Dew, 2009). However, even with the concomitant increase in Social Security benefits that accompany employment, women are likely less prepared for retirement than men (Lown, 2008). For example, in 2007 women had lower retirement account balances, were less likely to

have made formal plans for retirement or to have calculated their financial needs after retiring, and tended to leave the workforce with greater medical needs (and costs) than men (Lown, 2008).

In 2014, women age 65 and older were more likely than men age 65 and older to rely on Social Security retirement benefits as their primary source of income in the United States (Dushi, Iams, & Trenkamp, 2017). For more than 27% of older women, Social Security benefits comprised at least 90% of their income in 2014, versus 21.3% of older men who relied on Social Security for 90% of their income (Dushi, Iams, & Trenkamp, 2017).

One reason for this is the "ten-year rule" for claiming spousal Social Security retirement benefits (Iams & Tamborini, 2012). The minimum marriage duration required to file for a spousal benefit is 10 years. Computer simulations of Social Security workers and spouses projected that 80% of 70 year-old women who were born 1936-1945 would have marriages that lasted less than 10 years, decreasing to 70% for Baby Boomer women (born 1946-1965) and Generation X women (born 1966-1975) (Butrica & Smith, 2012). The only way that an individual without a long-term marriage can qualify to receive Social Security retirement benefits, an important source of income in retirement, is by accumulating 40 credits on his/her own record. Other simulations using the Social Security database found that divorced single women with marital durations of less than 10 years were more likely to be poor (Tamborini & Whitman, 2010).

Gender inequality of late-life poverty. Historically, more older women have been poor than older men (Poterba, 2014). Moreover, divorced older women have been most likely to be poor (Lin, Brown, & Hammersmith, 2015). In a study of Wisconsinites born in 1939, lower

lifetime income and marriage disruption pushed more ever-divorced women into poverty in old age than married or divorced men (Ruel & Hauser, 2013).

Impact of gray divorce on finances. Individual wealth decreases at or near the time of divorce, but it can recover over time (Zissimopoulos, 2009; Zissimopoulos, 2013). When divorce occurs after age 50, there is less time for net worth to re-build before retirement begins (Lin, Brown, & Hammersmith, 2015). There is also likely more wealth to divide and dissipate (Zissimopoulos, 2013). So, gray divorce can be more damaging to wealth than dissolutions at younger ages (Zissimopoulos, 2013). A study that used the 2010 wave of the Health and Retirement Study found that people who divorced after age 50 were 5.6 times more likely to be poor than married or re-married persons, while those who divorced earlier in life were 4.2 times more likely to be poor than ever-marrieds (Brown, Lin, & Hammersmith, 2015). The study defined poverty using 2009 United States Census guidelines for income (Brown, Lin, & Hammersmith, 2015).

It was observed that men who divorced after age 45 retire later than ever-married men in the Netherlands (Damman, Henkens, & Kalmijn, 2011). Subsequently, researchers found that later-divorced Dutch women retire later than ever-married and re-married women (Damman, Henkens, & Kalmijn, 2015). Several studies using samples of United States datasets have found that women's income from employment increased after divorce, but they did not test if women who divorced after age 50 delayed retirement (McKeever & Wolfinger, 2001; Sharma, 2015; Tamborini, Iams, & Reznik, 2012).

The poverty rate in 2010 for women divorced after age 50 was 27% (Lin, Brown, & Hammersmith, 2015). That is approximately 50% higher than that of women who divorce earlier in life, at 19% (Lin, Brown, & Hammersmith, 2015). In 2012, the incomes of gray divorced

women were observed to be 41% lower than women who never divorced (Hung & Knapp, 2017). A study using 1986-2008 data found that women who divorced after age 50 were found to have lower amounts of retirement savings and were slightly more likely to work full-time in their 60s (Olivetti & Rotz, 2017).

Remarriage. Early studies surmised that by remarrying, divorcees can stop dissaving (Fethke, 1989). However, they may never return to the net worth they had during their first marriages, because transaction costs may not be recovered with increased wealth due to being married (Fethke, 1989; Szinovacz & Deviney, 2000). Later research has found that the wealth of remarried individuals had returned to a similar level as that of people who had remained married, although the recovery was not immediate (De Vaus, Gray, Qu, & Stanton, 2007; Finch, 2014; Lin, Brown, & Hammersmith, 2015; Wilmoth & Koso, 2002).

Brown, Lin, and Hammersmith used the 2010 wave of the HRS to study the poverty of respondents age 63 and older (2015). Their analysis showed that those who had divorced and remained single were significantly more likely to be poor than continuously married people (Brown, Lin, & Hammersmith, 2015). Respondents who had re-married after a divorce were no more likely to be poor than those who stayed married (Brown, Lin, & Hammersmith, 2015).

However, individuals who remarry do not share all the advantages their continuously-married peers enjoy. Their marital durations are shorter than ever-marrieds or widows, and their new marriages may struggle financially due to obligations to prior spouses and/or children (Lin, Brown, & Hammersmith, 2015). Since 1997, it has been noted that the divorce rate for subsequent marriages is higher than that of first marriages, for every cohort and at every age, and this is projected to continue through 2045 (Bulanda & Brown, 2006; Butrica & Smith, 2012). Remarriages in later life are especially prone to dissolution (Brown & Lin, 2012; Bulanda &

Brown, 2006). The divorce rate in 2010 for remarriages of individuals age 50 and over was noted to be two-and-a-half times higher than the rate for first marriages (Brown and Lin, 2012). Three towns in Arizona, heavily populated with aging Baby Boomers, have the highest percentage of remarried residents in the United States: Lake Havasu, Prescott, and Kingman have remarriage rates of over 40% (Lewis & Kreider, 2015).

Contribution to the literature. Zissimopoulos, Karney, and Rauer (2015) looked at the relationship between household wealth and marital status in pre-retiree populations, but the oldest respondents in their study were 56. They did not consider the timing of divorce or retirement. Their study used 1992, 1998, and 2004 HRS waves that markedly pre-date the 2007-2008 Great Recession and current economic conditions, so the respondents had a completely different financial reality than current retirees face.

As discussed above, previous studies have reported higher divorce rates among Baby Boomers (Brown & Lin, 2012; Kennedy & Ruggles, 2014), have found that remarriages restore wealth to the level of always-married persons yet are more likely to end in divorce than first marriages (Bulanda & Brown, 2006), have studied the financial implications of divorce (Zagorsky, 2005), and have looked at net worth and income of retirees by marital status (Iams, Phillips, Robinson, Deang, & Dushi, 2009; Crown, Mutschler, Shulz, & Loew, 1993). The 1992 wave of the Health and Retirement Study has frequently been used to demonstrate economic effects of divorce. Such research does not typify Baby Boomer marital histories because the respondents were less likely to have ever divorced, divorced more than once, remarried, or to have remained single, and were more likely to have been widowed, than Baby Boomers (Lin, Brown, & Hammersmith, 2015). While short-term financial effects of divorce have been

documented using the Survey of Income and Program Participation, retirement implications cannot be inferred due to the limited time-frame of the panel surveys (Tach & Eads, 2015).

An Australian study documented older divorcees' financial hardships and greater dependence on social security payments (De Vaus, Gray, Qu, & Stanton, 2007). Specifically, the authors reported that divorced individuals age 55-74 had lower median incomes and non-housing assets than respondents with other marital statuses (De Vaus, Gray, Qu, & Stanton, 2007). The study did not control for age at divorce. The Australian Social Security system and home ownership programs are similar but not identical to those in the United States, so attempts to generalize should be cautiously undertaken.

The impact of later-life divorce on workforce participation after age 60 has not been tested (Lin, Brown, & Hammersmith, 2015). Although Poterba (2014) and Poterba, Venti, and Wise (2011) analyzed the relationship of marital status and wealth during retirement, no study has been designed specifically to focus on gray divorce at the cusp of retirement. Two Dutch studies found a higher propensity to continue employment among divorced men and women after their peers have retired (Damman, Henkens, & Kalmijn, 2011; Damman, Henkens, & Kalmijn, 2015). However, generalizability is limited because the data is 10-15 years old which pre-dates the 2008 Great Recession, only workers in certain occupations were surveyed, the Dutch retirement age is not the same as in America, and the Dutch social security system is different than in the United States.

Recently, Olivetti and Rotz (2017) have published a working paper on the extended workforce participation of women who divorce after age 50, but their research excludes 50% of the population (men). They used the Survey of Income and Program Participation, engendering the same limitations as in the Tach and Eads (2015) study. Their definition of retirement only

considers full-time employment. They do not compare women with gray divorce marital status to respondents who remarried or were widowed, and do not control for poor health, among other differences from the proposed study.

Synthesis

The Lifecycle Hypothesis assumes that additional resources beyond the presumed range will, when received, be spent or saved in proportion to the rate at which lifetime assets are consumed (Ando & Modigliani, 1963). Likewise, a reduction in resources, as occurs in divorce or a lay-off, should be expected to result in a proportional reduction in consumption. When divorce diminishes consumers' resources, The Lifecycle Hypothesis suggests they can be expected to cut consumption or extend employment duration in order to approximate retirement expectations (Fethke, 1989). To date, no study has published research on the application of the Lifecycle Hypothesis to delayed entry into retirement due to gray divorce.

Few studies since the early 2000s have focused on later life marital status changes (Lin, Brown, & Hammersmith, 2015). The complicated marital biographies of the Baby Boomers are only recently being studied. Their economic behaviors and net worth differ from those of their parents, who typically married once for life (Lin, Brown, & Hammersmith, 2015) and died younger (Lown, 2008). New research is needed to understand the implications of marital dissolution on the financial circumstances of the Baby Boom generation, which is now in or near retirement.

The questions remain unanswered: Are late-life divorcees staying in the workforce longer than their ever-married or always single peers? Are women affected to a different extent than men? This study explored these questions using the following hypotheses:

Hypotheses

H_1: Men who were divorced after age 50 are less likely to be retired and receiving Social Security retirement benefits at and after age 62 than men who did not divorce after age 50.

H_2: Women who were divorced after age 50 are less likely to be retired and receiving Social Security retirement benefits at and after age 62 than women who did not divorce after age 50.

These hypotheses are guided by the Lifecycle Hypothesis in that divorce occurring later in life potentially extends the employment stage of life. In other words, gray divorce may disrupt the planning horizon for achieving sufficient consumption in later life so that the transition age for expected work life years and retirement life stage should be altered. Prominent studies (Brown & Lin, 2012; Damman, Henkens, & Kalmijn, 2015; De Vaus, Gray, Qu, & Stanton, 2007) and recent research by Lusardi and Mitchell (2016) on the effect of marital disruption also provide support for these hypotheses.

Chapter 3 - Methodology

When examining a relatively small phenomenon for statistical significance, it is important to have numerous observations. This study used established statistical techniques to analyze a large national research database. Several datasets were investigated, but only one included almost all of the study variables and had interviewed the cohort of interest in their 50s and 60s.

Study Design

The hypotheses were tested using a large, longitudinal, nationally representative dataset. The respondents were a panel of Americans entering retirement. The study used statistical software to conduct descriptive and regression analyses.

Data source. The source of the data for this study was the Health and Retirement Study (HRS). The HRS is conducted biannually by the University of Michigan Institute for Social Research, with funding from the National Institute of Aging (grant number NIA U01AG009740) and the Social Security Administration (Bugliari et al., 2016). The RAND HRS Data file is an easy to use longitudinal data set based on the HRS data. It was developed at RAND with funding from the National Institute on Aging and the Social Security Administration (Bugliari et al., 2016). Documented statistical techniques are used to impute missing data, correct confusing answers, and combine responses into summary variables such as net worth (Bugliari et al., 2016).

Data description. In 1991, Congress requested the Health and Retirement Study (HRS) in order to obtain then-current information about retirement trends (Heeringa & Connor, 1995). Their last source of retirement data had been collected in 1979 (Heeringa & Connor, 1995). Increasing longevity was extending the length of retirements; policy makers wanted to learn the

medical, financial, and behavioral issues involved in retirement decisions (Heeringa & Connor, 1995).

The HRS is a panel study. Continuing participation of respondents is encouraged through financial incentives (HRS Staff, 2008). A nationally representative sample of Americans age 50 and older are interviewed every two years on a variety of subjects, from social to economic to medical topics. The oldest respondents were born in 1924, and the youngest in 1959. The most current full sample collected was in 2014; the 2016 data collection had not been added to all of the files available for research as of June 2018.

The HRS database was selected for this study for two reasons. First, because it captures information on economic and control variables from the population of interest: Baby Boomers in their 60s. Second, the HRS collects several dimensions of data on up to four marriages per respondent. Complete marital biographies were crucial for testing the hypotheses in this study.

This study used the raw dataset of the 2014 wave of the Health and Retirement Study. In addition, it used the RAND version of the survey, which has been processed by RAND Corporation scientists for two purposes: to eliminate missing or confusing questionnaire responses, and to combine variables for ease in analysis. The study also used the 2014 Tracker file, which includes all respondents and selected raw variables from every wave. Each version of the file provides at least one type of information that the others lack, but is necessary for the analysis.

The 2014 Health and Retirement Study wave provides a recent assessment of Baby Boomer finances and labor force participation. The survey also collected data on self-reported health, socioeconomic measures, and cognitive tests. In 2014, the participants selected for this

study were ages 62 to 68. They were born in the years 1946 to 1952, which are the first six years of the Baby Boom generation.

The Health and Retirement Study collects information on the same participants in every wave. Because the same people are interviewed every time, their finances, health, and cognition can be tracked over time. This is important for this study because it allows the construction of a detailed marital history. Early age divorce (before age 50) and later life divorce (after age 50) can be differentiated from these marital biographies.

Data collection. The Health and Retirement Study has been undertaken every two years since 1992 (Bugliari et al., 2016). Surveys are administered by mail, telephone, and in person to respondents age 51 and older (HRS Staff, 2008; Ofstedal, Fisher, and Herzog, 2005). Over time, new cohorts have been added to the HRS to maintain relevance (HRS Staff, 2008). The sampling procedure begins with United States Census blocks, then oversamples African-Americans, Hispanics, and residents of the state of Florida (Heeringa & Connor, 1995). There were 37,495 observations (participants) in the 2014 wave (Bugliari et al., 2016).

Statistical software. The study used SPSS, a statistical software package from IBM. The version is 25.0. It was issued in 2017.

Selection of the cohort. In their formative years, individuals who were born after World War II, the so-called Baby Boom generation, experienced social upheaval on several fronts, and their marital histories reflect their dynamic nature. On average and in absolute terms, more divorces, more singleness, and more re-marriages are attributed to Baby Boomers than to any generation before them (Palmer, 2015).

Baby Boomers, though raised by parents who lived through the Depression, have not saved sufficiently for retirement (Applebaum & Cummins, 2017; Lown, 2008; Shriver, 2010).

Yet, they will live much longer than their parents (Poterba, 2014). Extended retirements without adequate funding portend reliance on public aid such as Supplemental Security Income and Medicaid programs (Lown, 2008). Baby Boomers are much more likely to carry debt and experience bankruptcy in their 60s and beyond than other generations (Lusardi, Mitchell, & Oggero, 2017; Seay, Asebedo, Thompson, Stueve, & Russi, 2015; Lee, Lown, & Sharpe, 2007).

Many Baby Boomers will rely predominantly on Social Security benefits for their retirement income (Sullivan, 2013). As 78 million Baby Boomers initiate Social Security benefit applications at a projected rate of 10,000 per day, the Social Security Administration's resources will be taxed (Makidon, 2013). In fact, benefits are projected to be cut by 25% in 2034, when then-current payroll contributions will be the only source of funds for retirement and disability claims (Social Security Administration, 2018c). Millions of retired Americans relying on smaller benefit checks as their main sustenance in the 2030s could strain the economy by increasing debt and dependence on social safety nets (Karraker & Dorius, 2016). So, it is important to understand the factors that may delay or instigate Baby Boomer retirement and Social Security claiming behavior.

Sampling procedures. HRS data is collected using a multi-stage stratified data sampling technique (Heeringa & Connor, 1995). A total of 84 strata are used (Heeringa & Connor, 1995). Blacks, Hispanics, and residents of the state of Florida are oversampled (Heeringa & Connor, 1995).

In 2014, the response rate for Baby Boomers was approximately 85% of the sample (HRS Staff, 2017). A total of 5,727 Baby Boomers were interviewed in the 2014 wave (HRS Staff, 2017). In addition, 2,710 minority respondents were oversampled; they belonged to all cohorts (HRS Staff, 2017).

Sample description. This study used the 2014 survey wave. In order to continually update the dataset with pre-retiree respondents, the current protocol of adding six-year mini-cohorts every six years was initiated in 1998 (HRS Staff, 2017). Early Baby Boomers, born 1948-1953, were first surveyed in 2004 (HRS Staff, 2017). Baby Boomers born in the middle of the cohort, 1954-1959, were added in the 2010 wave (HRS Staff, 2017). Late Baby Boomers, born 1960-1964, were added to the 2016 wave (HRS Staff, 2018). Although the dataset is supposed to resemble individuals over 50 years old in America, African-Americans and Latinos are over-represented in the sample in order to have enough statistical power for analyses (Heeringa & Connor, 1995). These populations were weighted to preserve proportionality with the overall sample (Heeringa & Connor, 1995).

Missing data. Missing data is treated on a variable by variable basis. Sometimes respondents do not answer a question due to confusion. Respondents can also simply refuse to answer a question. The HRS assigns codes for missing data while surveying respondents (Bugliari et al., 2016). The RAND Corporation cleans the data and performs imputations, particularly for summary variables (Palmer, 2015).

Sample selection. This study's sample was selected using several criteria. First, HRS survey respondents were filtered by age. To select Baby Boomers, the population of interest for the study, the dataset was restricted to participants born in the years 1946, when the Baby Boom began, to 1952, the birth year of survey participants who were 62 years old in 2014. So, the sample included Baby Boomers from the early years of the retirement stage of their lifecycle. It has been observed that the first spike in retirement age occurs at age 62 (Hubener, Maurer, & Mitchell, 2016). The number of observations at this point was 3,953.

The next stage in the sample selection process was to delete respondents who did not have consistent pertinent information. Two respondents were missing gender, nine did not report their race, one did not provide education information, four had missing data for health, and 24 were missing marital history dates. See Appendix C for a complete description of the sample selection process employed. The number of cases in the final sample was 3,913.

Operationalization of Concepts

This study seeks to explore the possibility that divorcing after age 50 delays the onset of retirement. The concept of gray divorce must be converted into a numerical variable that can be analyzed with SPSS. Other independent variables that were used in the study were already available in the datasets.

Dependent Variable

The dependent variable in this study reflects two dimensions of retirement: non-participation in the labor force, and receiving Social Security retirement benefits. According to the Lifecycle Hypothesis, the act of retiring is under the individual's control.

Retirement. Retirement is a subjective concept. For this study, retirement is operationalized as non-participation in the labor force after age 60. The RAND HRS variable "retirement status" is constructed from several component variables. The survey asks respondents if they consider themselves to be retired in the retirement section and in the employment section of the questionnaire (Bugliari et al., 2016). Self-employment is considered employment (Bugliari et al., 2016). If respondents report both part-time employment and being retired, retirement status is considered to be partly retired; if respondents do not consider themselves to be retired, they are coded as being employed part-time; both are deemed states of employment for the purposes of analysis (Bugliari et al., 2016). Similarly, disabled status

depends on both self-reported disability and whether or not the respondent considers herself to be retired (Bugliari et al., 2016). Unemployed respondents are not considered retired.

In some cases, respondents do not mention that they are retired yet they do not report any employment status. If they were at least 65 years old in 2014 and had not worked in at least two years, RAND codes them as retired; if they were younger than 65 but had not reported whether they were in or out of the labor force, they are assigned a missing data code (Bugliari et al., 2016). Ages 62 and 65 are common ages for retirement (Gruber & Wise, 1999; Munnell & Chen, 2015; Yuh, Montalto, & Hanna, 1998).

This study coded retirement dichotomously, representing being retired or not. Using the RAND HRS variable for retirement status (LBRF), the categories of employed (including self-employed), employed part-time, partly retired, unemployed, disabled, and not in the labor force are considered not retired; the status of retired is considered as retired.

Social Security. Social Security retirement benefits are a common source of retirement income. As of December 2016, more than 44 million retired workers, along with three million spouses and dependent children, were receiving these benefits (Social Security Administration, 2017a). Eligible workers and their spouses, widows, and ex-spouses can apply to begin receiving reduced Social Security retirement benefits at age 62 (age 60 for qualifying widows). Full benefits are paid at age 66 for individuals born between 1943 and 1954; for individuals born in between 1955 and 1959, the year they are eligible to receive their full benefit increases by two months every year, from ages 66 and 2 months to age 66 and 10 months; if individuals are born after 1960, full benefits are paid at age 67. (See Appendix A.) If workers delay receipt of benefits, up to age 70, their benefits increase at the rate of 8% per year of deferral. (See Appendix B.)

The HRS asks whether respondents are receiving benefits. Social Security retirement benefits in this study is reported as a dichotomous variable, reflecting whether or not a respondent was receiving Social Security retirement benefits at the time of the survey.

Retirement and Social Security permutations. As mentioned previously, retiring and claiming Social Security retirement benefits are distinct behaviors. Because they are independent decisions, they do not necessarily occur at the same time. However, they are highly positively correlated (Munnell & Chen, 2015). In this study, the correlation of these variables is $r\ (3844) = +.47$, $p < .01$.

Respondents in the study are asked if they are currently receiving Social Security benefits. The dichotomous response is combined with the dichotomous retirement status response in a crosstabs analysis. The resulting combinations of responses are the four categories of the dependent variable, as listed below and as shown in Figure 3.1. They are:

- not retired and not receiving Social Security
- not retired and receiving Social Security
- retired and not receiving Social Security
- retired and receiving Social Security

Figure 3.1 Categories of the Dependent Variable	
Retired and receiving Social Security	**Retired and not receiving Social Security**
Not retired and receiving Social Security	**Not retired and not receiving Social Security**

Figure 3.1. Four categories of the dependent variable, constructed from binary options for being in the labor force or not, and receiving Social Security retirement benefits or not. Author's work.

Independent Variables

The independent variables in this study can be conceptualized as belonging to one of three types. One category is dimensions of marital status, including gray divorce. Another type consists of demographic variables. A third group of variables have been associated with retirement timing in the literature.

Marital status. Marital status variables are constructed in the RAND HRS dataset from several raw variables, and may reflect responses from more than one wave (Bugliari et al., 2016). Current marital status is reported as married, married but spouse is absent (usually due to health issues), separated, divorced, widowed, and never married. This study combines married with

married but spouse absent, and divorced with separated. Current marital status is a categorical variable.

Up to four marriages, with accompanying dates of dissolutions or widowhood, are observed in the RAND and raw HRS datasets. Each marriage's duration is noted. Cohabitation and partnership arrangements are not considered when determining marital status.

Gray divorce. As mentioned above, gray divorce is defined in the literature as marital dissolutions of individuals aged 50 and older. The Health and Retirement Study does not code for this marital status, nor does the RAND file (Lin, Brown, & Hammersmith, 2015; Lin, Brown, Wright, & Hammersmith, 2016). Therefore, a binary gray divorce variable was created for this study. Other researchers have constructed this variable or category of marital status from the Health and Retirement Study by investigating respondents' marital histories (Lin, Brown, Wright, & Hammersmith, 2016; Palmer, 2015).

Survey participants are asked for the beginning dates and durations of every marriage, up to ten relationships (Bugliari et al., 2016). By cross referencing the calculated date of divorce with an individual's date of birth, it can be determined if the individual divorced after age 50. It would not be accurate to assign all respondents who are divorced in the 2014 wave to the gray divorced variable, since they may have divorced before age 50. Nor should respondents who are married or widowed in the 2014 wave be excluded from being coded as gray divorced; they could have been divorced after age 50, then re-married, and perhaps widowed later in life.

When the survey participant enters the Health and Retirement Study, usually at age 50, he/she may be married, divorced, separated, widowed, or never married (Bugliari et al., 2016). A small number of respondents do not report their marital status (Bugliari et al., 2016). Sometimes, date information is missing in one wave but reported in another wave, so the deficiency can be

corrected. If marital status could not be determined, those participants were omitted from this study.

To produce the gray divorce variable, the complete marital biography of each of the 3,913 Baby Boomer respondents selected from the HRS for this study must be evaluated. Respondents are interviewed every two years (Bugliari et al., 2016). Each respondent's marital status is assessed in every wave he/she was interviewed. This information is recorded in the Tracker file. Marital status prior to entering the HRS panel is recorded in the file for the first wave that respondents are interviewed. Marital history variables were taken from every wave from 1996 through 2014 and merged into the main RAND dataset, which contains the majority of the variables used in the study.

Gray divorce status is calculated by adding the year that every marriage began and its duration, then subtracting the respondent's birth year. If the difference was 50 or greater, then a gray divorce had occurred. If there was no divorce, or the difference was less than 50, then the variable was coded as no gray divorce. For example, if a marriage began in 1970, and lasted 31 years, the sum is 2001; subtracting the respondent's birth year of 1948 from 2001 gives a result of 53, so the respondent would be coded 1 for gray divorce. The steps to create the gray divorce variable are listed in Appendix D.

In 2010, the gray divorce rate in the United States among people ages 50-64 is estimated to have been 10%, and for adults over age 65 it was estimated to have been approximately 5% (Lin & Brown, 2012). Therefore, we would expect that between 5% and 10% of the sample for this study will have experienced gray divorce. Out of 2,394 married respondents in the sample, between 120 and 239 should be in the gray divorce category.

Recency of divorce. This study seeks to determine if divorce in older individuals delays their retirement, presumably for financial reasons. If marital dissolution occurs around or during the time of retirement, the negative economic ramifications of divorce have little time to return to pre-divorce levels. Recency of divorce was calculated for this study as a continuous variable, then divided into groups in order to form categorical variables for ease of analysis.

For every divorce in every survey wave from 1996 to 2014, the sum of the year of marriage and the number of years of the marriage was subtracted from 2014. For example, if a marriage began in 1970 and lasted 31 years, the sum would be 2001; it would be subtracted from 2014 to give a recency of divorce of 13 years. The steps to create the divorce recency variable are listed in Appendix D.

Divorces that occurred 13-24 years prior to 2014, as long as they were not gray divorces, comprised one category. Respondents in this category were ages 38-49 at the time they divorced. Divorces that took place 25 or more years ago were classified as another category. Respondents in this category were ages 37-43 or younger when they divorced. If there was no divorce, the recency of divorce was coded as not occurring.

Other control variables. Additional factors may confound the relationship between gray divorce and the onset of retirement. This study controls for specific differences in respondents using variables available in the RAND HRS dataset. The variables fall into demographic and retirement-related groups.

Gender. The disparity in financial outcomes of divorce between the sexes has been researched extensively (Butrica & Smith, 2012; Lin, Brown, & Hammersmith, 2015; Sullivan, 2013; Tamborini, Iams, & Reznick, 2012; Zagorsky, 2005). However, little has been published

recently on the economic implications of gray divorce for women (Palmer, 2015). This study uses the RAND HRS binary variable for gender.

Race/ethnicity. The financial consequences of gray divorce may be worse for African-Americans and other minorities, as they are for divorces among non-white couples younger than age 50 (Iams & Tamborini 2012; Sullivan, 2013). This study uses the RAND HRS categorical variable for race/ethnicity. Respondents are asked during their first HRS interview whether they consider themselves white/Caucasian, black/African-American, Hispanic/Latino, or another race/ethnicity. Few respondents in the sample are not white or black. Hispanic/Latino and other minorities are combined with black/African-Americans to form a non-white category,

Education. A fundamental consideration in a worker's decision to participate in the labor force is the wage she receives (Ehrenberg & Smith, 2012). Income cannot be used as a variable to predict employment status since it arises from being employed. Instead, education functions here as the proxy for wage income. Education is divided in the RAND HRS dataset into the following categories: no high school diploma, high school graduate, some college, college and above. Those who finished college are combined with respondents with graduate hours and degrees into the "college and above" category. Individuals who did not finish high school are combined with those who did receive a GED to form one category of respondents who did not earn a high school diploma, as in previous research (Iams, Phillips, Robinson, Deang, & Dushi, 2009; McNamara & Williamson, 2004; Palmer, 2015).

Health. Poor health has been explored in research on retirement (Board of Governors of the Federal Reserve System, 2017; Bulanda & Brown, 2006; Shoven, Slavov, & Wise, 2017). Significant illness or disability is a shock to the system, according to the Lifecycle Hypothesis, and could modify an individual's retirement timeline. Self-reported health is a variable in the

RAND HRS dataset. It is a categorical variable, ranging from 1 to 5; 1 is Excellent, 2 is Very Good, 3 is Good, 4 is Fair, and 5 is Poor. Self-rated health is dichotomized into two categories (good/very good/excellent health and poor/fair health) as it is in the literature (Wang & Matz-Costa, 2018).

Caregiving responsibilities. Individuals in their 50s and 60s often bear the burden of caring for loved ones. The responsibility for tending to dependent children at home, elderly parents, other disabled relatives; providing child care for grandchildren; or helping members of their community can cause Baby Boomers to leave their jobs before they plan to retire. These burdens fall disproportionately on women, and can lead to earlier retirements than men (Fisher, Chaffee, & Sonnega, 2016; Palmer, 2015).

The raw HRS surveys contain several variables that measure different dimensions of caregiving responsibilities. Caregiving questions from every raw data wave of the HRS were merged into the main RAND dataset for analysis. One question asked if respondents spent at least 100 hours over the past two years taking care of grandchildren or great-grandchildren. Respondents were asked if they had helped parents or parents-in-law with "basic personal activities like dressing, eating, and bathing" or "with other things such as household chores, errands, transportation, etc." (HRS Staff, 2015, section F, n.p.). Finally, there was a question about "helping friends, neighbors, or relatives who did not live with you and did not pay you for the help" (HRS Staff, 2015, section F, n.p.). If a respondent reported providing any of the caregiving activities, the respondent was coded as having caregiving responsibilities. If no caregiving activities were reported, then the respondent was coded 0 for caregiving responsibilities. See Appendix E.

Data Analysis

This study consisted of two levels of analysis. It included descriptive analyses and multinomial logistic regression models.

Descriptive statistics. The first stage describes characteristics of the HRS Baby Boomer cohort. Descriptive statistics consist of labor force participation, financial variables, marital status, health, and demographic variables.

Multinomial logistic regression models. The second stage of the analyses sought to determine the relative power of gray divorce in explaining labor force participation status at age 62 and older, while also accounting for its influence on Social Security benefit receipt. Multinomial logistic regression is used to test for the combinations of being retired or not retired and receiving or not receiving Social Security retirement benefits. The regression is run separately for each gender, because financial consequences of divorce have been shown to differ by gender.

The reference category is being retired and receiving Social Security benefits, which is the most frequent status at those ages (Shoven, Slavov, & Wise, 2017). According to the research hypotheses, gray divorce should inhibit workforce exits as well as taking Social Security. For workers or their spouses who have not reached age 66, which is full retirement age for this cohort, continuing to work would reduce the amount of Social Security benefits received due to the earnings test. Although combining the retirement and Social Security outcome variables complicates analysis, the results may reveal patterns that are important yet neglected in the literature until now.

Summary

Aging Baby Boomers are leaving the workforce by the thousands every day, and also dissolving their marriages at twice the rate as previous generations. They are living longer but have saved little for retirement. Few have pensions to rely on. The Social Security Administration anticipates that retirement and Medicare benefits will be reduced within Baby Boomer lifetimes (Social Security Administration, 2018c). Divorce reduces financial stability; divorce close to retirement age may delay Baby Boomer workforce exits. This analysis seeks to investigate that final possibility.

Chapter 4 - Results

The 12th wave of the Health and Retirement Study interviewed a nationally representative sample of 18,747 Americans age 50 and older in 2014. In that year, the youngest Baby Boomers turned 50 years old, and the oldest Baby Boomers celebrated their 68th birthdays.

Descriptive Statistics

As described in Chapter 3, the HRS includes 3,953 individuals who were born in the years 1946 through 1952 in the 2014 HRS wave. After deleting 40 persons who did not answer questions on gender, race, education, health, dates of birth, and marital history, 3,913 respondents were selected for the study's sample. Selected demographic, financial, and other characteristics are summarized in Table 4.1.

Table 4.1 Descriptive Statistics of the Study's Sample

Variable	%	*N*	Mean	SD
Age of respondent		3,913		
Range: 62 to 68			64.74	1.96
Age 62	17.0	665		
Age 63	15.1	589		
Age 64	15.7	616		
Age 65	15.1	592		
Age 66	14.4	564		
Age 67	11.2	440		
Age 68	11.4	447		
Gender		3,913		

Male	42.7	1,672		
Female	57.3	2,241		
Race		3,913		
White	66.9	2,617		
Black	22.7	887		
Other	10.5	409		
Marital status		3,913		
Married	60.8	2,394		
Never married	6.1	238		
Widowed	11.8	466		
Divorced/Separated	21.4	850		
Education		3,913		
Less than high school and GED	19.9	776		
High school graduate	25.6	1,003		
Some college	28.0	1,097		
College graduate and above	26.5	1,037		
Net worth		3,913		
Range: -$688,396 to $24,475,000			$445,778.59	$105,666
-$688,396 to $50,000	33.5	1,310		
$50,001 to $328,000	33.1	1,298		
$328,001 to $24,475,000	33.4	1,305		
Self-reported health		3,913		
Excellent health	9.2	359		

Very good health	30.1	1,178		
Good health	31.5	1,233		
Fair health	22.0	860		
Poor health	7.2	283		
Caregiving responsibilities		3,913		
Care for family or others	69.3	2,712		
No caregiving	30.7	1,201		
Number of marriages		3,913		
Range: 0 to 6			1.46	.84
Never married	6.0	234		
1 marriage	56.8	2,223		
2 marriages	25.8	1,008		
3 or more marriages	11.4	448		
Number of divorces		3,913		
Range: 0 to 4			.66	.84
Never divorced	53.9	2,109		
1 divorce	30.7	1,202		
2 divorces	11.9	466		
3 or more divorces	3.5	136		
Number of widowhoods		3,913		
Range: 0 to 2			.15	.37
Never widowed	85.5	3,345		
Widowed once	14.0	546		

Widowed twice	0.6	22		
Never married	6.0	234		
Gray divorced	4.6	179		
Recency of divorce		1,469		
Range: 1 to 56 years			27.82	10.1
1 to 12 years	8.1	119		
13 to 24 years	28.8	423		
25 years and longer	63.1	927		
Retirement status		3,913		
Retired	51.3	2,007		
Not retired	48.7	1,906		
Receiving Social Security retirement benefits		3,913		
Receiving benefits	65.7	2,572		
Retired and receiving Social Security	45.5	1,792		
Retired and not receiving Social Security	5.8	227		
Nor retired and receiving Social Security	20.2	794		
Not retired and not receiving Social Security	28.5	1,124		

Note. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Sample description. The sample population is 57.3% female. The median age is 64.7 years. Two-thirds of respondents identified as white, 22.7% identified as black, and 10.5% specified their race as Hispanic, Asian, or other races. A slight majority of the sample had

attended college (54.5%). Their overall physical condition was good, since only 29.2% rated their health as fair or poor.

The proportion of the sample that reported being retired was 51.3%. Yet, almost two-thirds (65.7%) were receiving Social Security benefits. The largest group of respondents was those who were retired and receiving Social Security (1,792), while the smallest group comprised respondents who were retired and not receiving Social Security (227).

More than half of respondents (60.7%) were married in 2014; 6.1% had never married. Reflecting Baby Boomer characteristics of longevity and marital fragility, in 2014 almost twice as many respondents were divorced or separated (21.4%) versus widowed (11.8%). The overall divorce rate is approximately 50%: the number of respondents who divorced once (1,202), twice (466), and three or more times (136) is almost half of the number of respondents who had married, including widows (3,679). But marriage was still frequent among these Baby Boomers: only 6% had never married, while 25.8% had married twice and 11.4% had married three or more times.

The divorce rate for Americans age 65 and older was measured in 2010 using extrapolated Census data and was approximately 6.9 per 1,000 married persons (Brown & Lin, 2012). With 179 gray divorced respondents during a 12-year period, out of a sample population with 2,394 married respondents, the gray divorce rate for the sample was 6.2 per 1,000 married persons. The sample has approximately the same percentages of marriages, divorces, and widowhoods as the 2014 HRS population and the national average, so the sample is representative of the marital history of Americans in general (Aughinbaugh, Robles, & Sun, 2013).

When viewed by gender, there are differences in sample characteristics for male and female respondents. The results of frequency analysis are shown in Table 4.2.

Table 4.2 Descriptive Statistics of Each Gender

	Males				Females			
Variable	%	*N*	Mean	SD	%	*N*	Mean	SD
Gender								
Male	42.7	1,672						
Female					57.3	2,241		
Age of respondent		1,672				2,241		
Range: 62 to 68			64.70	1.97			64.78	1.95
Age 62	17.9	299			16.3	366		
Age 63	15.3	255			14.9	334		
Age 64	15.9	266			15.6	350		
Age 65	14.9	249			15.3	343		
Age 66	13.8	230			14.9	334		
Age 67	10.7	179			11.6	261		
Age 68	11.6	194			11.3	253		
Race		1,672				2,241		
White	67.9	1,136			66.1	1,481		
Black	20.6	345			24.2	542		
Other	11.4	191			9.7	218		
Marital status		1,672				2,241		
Married	70.4	1,193			52.9	1184		

Never married	5.5	93	6.4	144
Widowed	4.4	73	17.4	389
Divorced/Separated	19.0	313	23.4	524
Education		1,672		2,241
Less than high school, GED	19.4	325	20.1	451
High school graduate	22.5	379	27.9	626
Some college	28.5	476	27.7	621
College graduate and above	29.5	494	24.2	543
Net worth		1,672		2,241
Range: -$688,396 to $24,475,000				
-$688,396 to $50,000	30.6	512	35.6	798
$50,001 to $328,000	33.5	560	32.9	738
$328,001 to $24,475,000	35.9	600	31.5	705
Self-reported health		1,672		2,241
Excellent health	9.7	162	8.8	197
Very good health	29.3	493	30.6	685
Good health	31.4	527	31.5	706
Fair health	22.2	368	22.0	492
Poor health	7.4	122	7.2	161
Caregiving responsibilities		1,672		2,241
Yes	71.5	1,195	67.7	1,517
No	28.5	477	32.3	724

Number of marriages		1,672				2,241		
Range: 0 to 6			1.46	0.83			1.46	0.86
Never married	5.5	95			6.2	139		
1 marriage	56.7	948			56.9	1,275		
2 marriages	26.3	439			25.4	569		
3 or more marriages	11.5	190			11.5	258		
Number of divorces		1,672				2,241		
Range: 0 to 4			0.64	0.85			0.67	0.84
Never divorced	55.1	922			53.0	1,187		
1 divorce	30.0	501			31.3	701		
2 divorces	11.5	192			12.2	274		
3 or more divorces	3.4	57			3.5	79		
Number of widowhoods		1,672				2,241		
Range: 0 to 2			0.07	0.27			0.21	0.43
Never widowed	93.0	1,555			79.9	1,790		
Widowed once	6.8	113			19.3	433		
Widowed twice	0.2	4			0.8	18		
Never married		89				132		
Gray divorced		89				90		
Recency of divorce		1,672				2,241		
Range: 1 to 56 years			27.32	10.09			28.24	10.07
1 to 12 years	3.5	59			2.7	60		
13 to 24 years	11.7	196			10.1	227		

25 years and longer	24.8	414	22.9	513
Retirement status		1,672		2,241
Retired	49.7	831	52.5	1,065
Not retired	50.3	841	47.5	1,176
Receiving Social Security retirement benefits		1,672		2,241
Receiving benefits	63.2	1,056	67.6	1,516
Not receiving benefits	36.8	616	32.4	725

Note. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Gendered sample description. As established in the literature, males and females reported different values on several variables. The sample is 57% female and 43% male. The genders were similar racially, health-wise, and in their marital histories except for widowhood and gray divorce. Almost half of the women completed their education with a high school diploma compared to 42% of men. More men were married than women in 2014 (70.4% versus 52.9%). Four times as many women were currently widowed as men (17.4% versus 4.4%). Slightly more women than men were currently divorced in 2014 (23.4% versus 19.0%).

Women were poorer than men: 35.6% had $50,000 or less in assets versus 30.6% for men. Percentages of men and women who were retired or receiving Social Security retirement benefits were roughly similar, with women somewhat more likely to be retired than men (52.5% versus 49.7%) or taking benefits (67.6% versus 63.2%) than men. The mean age of retired men was 65 years old. The mean age of retired women was 65 years old.

Figures 4.1, 4.2, 4.3, and 4.4 show the distribution by age of men and women for the retirement status variable and the Social Security benefit receipt variable. Female respondents were more likely to be retired than not retired at age 64, while retired male respondents did not outnumber working male respondents until age 65. In this sample, the peak age for female respondents receiving Social Security was 66, while for males it was age 68.

Figure 4.1 Male Respondents Retirement Status by Age

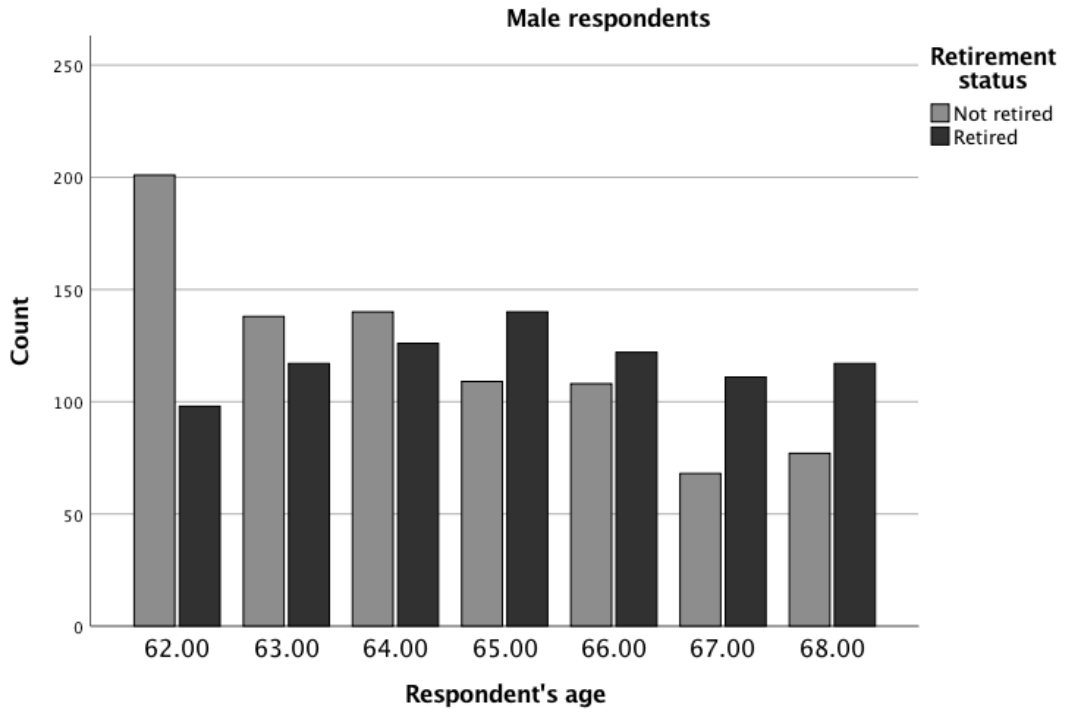

Figure 4.1. Retirement status of males by age. Columns represent respondents' age in years. Vertical axis represents the number of individuals in that group. Legend shows retirement status. Author's work.

Figure 4.2 Female Respondents Retirement Status by Age

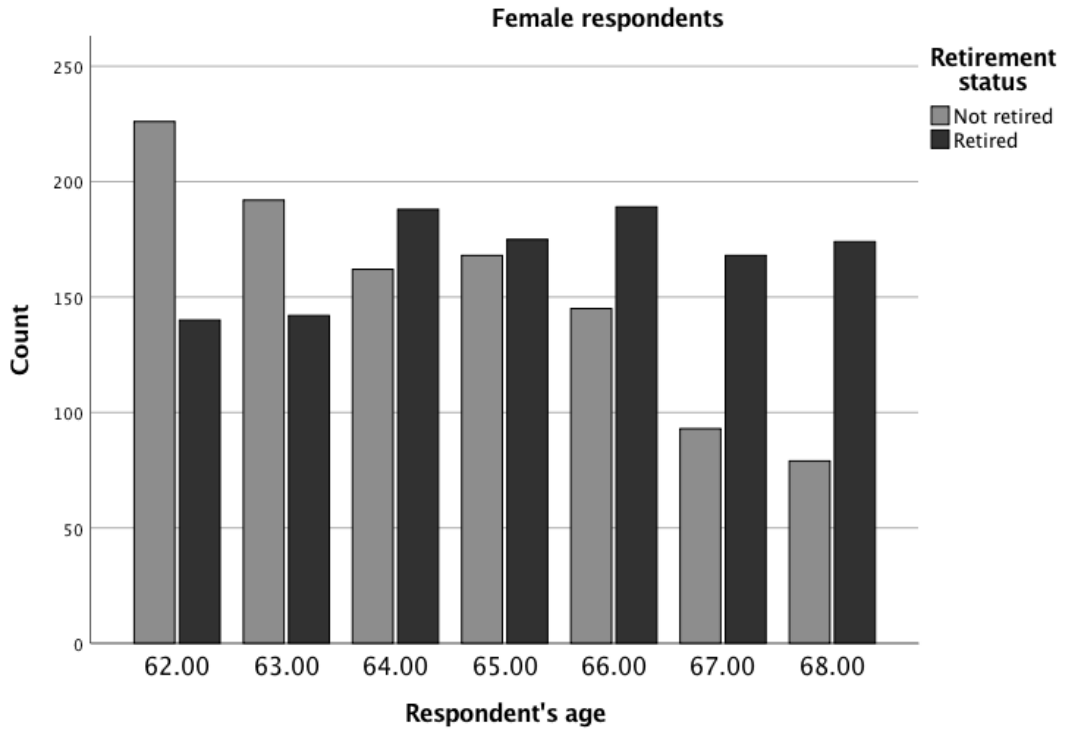

Figure 4.2. Retirement status of females by age. Columns represent respondents' age in years. Vertical axis represents the number of individuals in that group. Legend shows retirement status. Author's work.

Figure 4.3 Male Respondents Social Security Benefits Receipt by Age

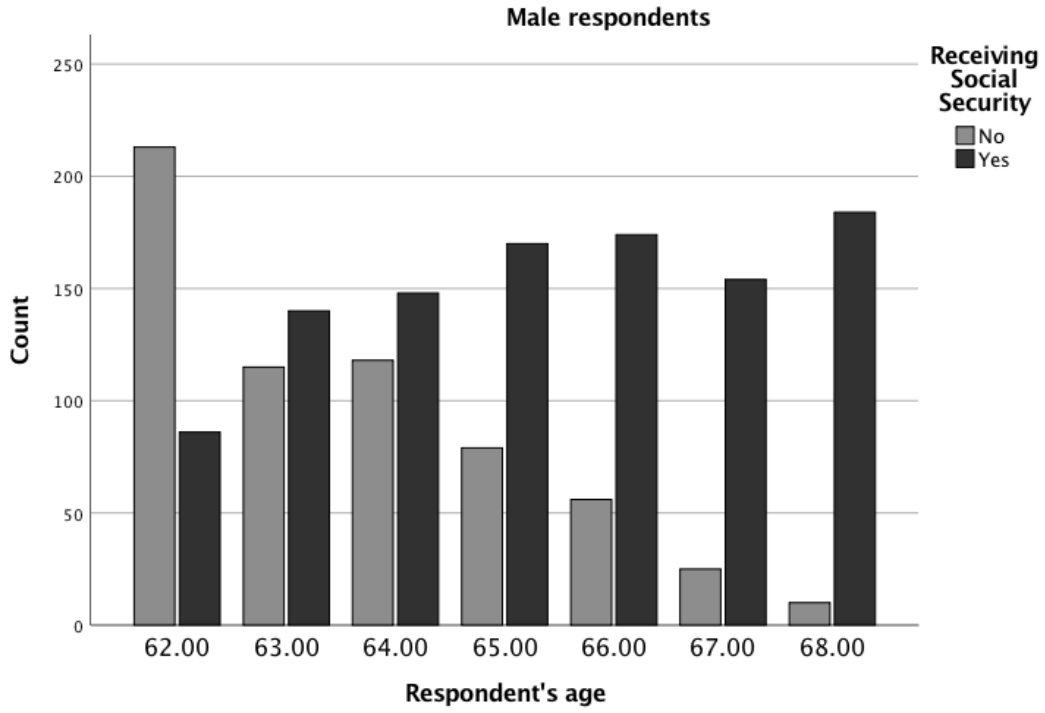

Figure 4.3. Receipt of Social Security retirement benefits of males by age. Columns represent respondents' age in years. Vertical axis represents the number of individuals in that group. Legend shows status of Social Security retirement benefit receipt. Author's work.

Figure 4.4 Female Respondents Social Security Benefits Receipt by Age

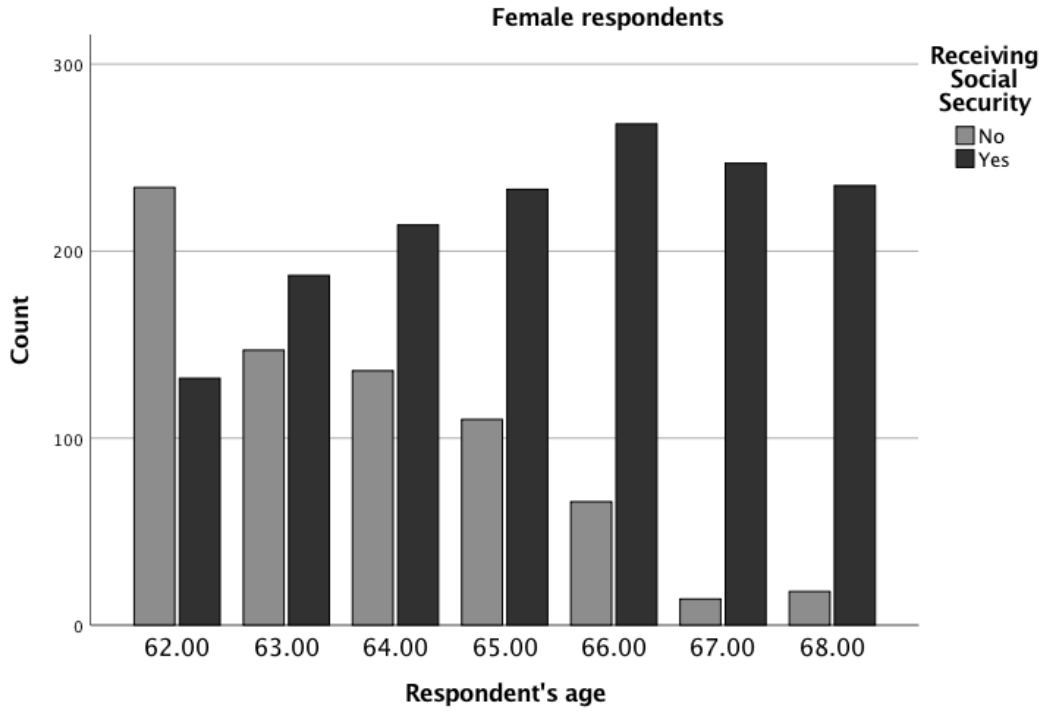

Figure 4.4. Receipt of Social Security retirement benefits of females by age. Columns represent respondents' age in years. Vertical axis represents the number of individuals in that group. Legend shows status of Social Security retirement benefit receipt. Author's work.

As reported in Table 4.2, fewer women were caregivers than men (67.7% versus 71.5%), but the measure available excludes caring for a spouse, an activity more common for women (Bulanda & Brown, 2006). Interestingly, fewer women were divorced after age 50 than men (4.0% versus 5.3%). Fewer women reported divorce at any age than men (47.0% versus 49.8%). In the context of all marital dissolutions, however, this makes sense because women were widowed much more often than men.

Dependent variable description. The dependent variable of retirement behavior has four categories: not retired and not receiving Social Security, retired and not receiving Social

Security, not retired and receiving Social Security, and retired and receiving Social Security (reference category). Some predictor variables were proportionally similar for each category of the dependent variable, while other variables showed different frequencies. Crosstabs analysis with expected counts was conducted to help understand unique and similar characteristics of respondents in each category. A crosstabs analysis of the four categories of the dependent variable by gender is found in Appendix F. Table 4.3 summarizes the crosstabs analysis by category and gender. Tables 4.4 and 4.5 present the crosstabs analysis of predictor variables with expected counts for the four categories of the dependent variable for males and females, respectively.

Table 4.3 Crosstabs Analysis of the Four Categories of the Dependent Variable by Gender, *N* = 3,913

Categories of Dependent Variable	Males	Females	Total
Not retired, not receiving Social Security	515	601	1,116
Not retired, receiving Social Security	326	464	790
Retired, not receiving Social Security	101	124	225
Retired, receiving Social Security	730	1,052	1,782

Note. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Table 4.4 Crosstabs Analysis of Independent Variables by Category of Dependent Variable for Males, *N* = 1,672

Predictor Variable			Dependent Variable			
			Not retired, not receiving Social Security	Not retired, receiving Social Security	Retired, not receiving Social Security	Retired, receiving Social Security
Race	White	Count	372	235	67	462
		Expected Count	349.9	221.5	68.6	496
		Difference/Exp	0.06	0.06	(0.02)	(0.07)
	Black/Other	Count	143	91	34	268
		Expected Count	165.1	104.5	32.4	234
			(0.13)	(0.13)	0.05	0.15
Current	Married	Count	395	238	69	491
marital status		Expected Count	367.5	232.6	72.1	520.9
		Difference/Exp	0.07	0.02	(0.04)	(0.06)
	Divorced/	Count	76	60	20	157
	Separated	Expected Count	96.4	61	18.9	136.7
		Difference/Exp	(0.21)	(0.02)	0.06	0.15
	Widowed	Count	14	14	6	39
		Expected Count	22.5	14.2	4.4	31.9
		Difference/Exp	(0.38)	(0.01)	0.36	0.22
	Never	Count	30	14	6	43
	married	Expected Count	28.6	18.1	5.6	40.6
		Difference/Exp	0.05	(0.23)	0.07	0.06

Education	Less than	Count	69	57	11	188
	high school	Expected Count	100.1	63.4	19.6	141.9
		Difference/Exp	(0.31)	(0.10)	(0.44)	0.32
	High school	Count	99	60	22	196
	graduate	Expected Count	116.1	73.5	22.8	164.6
		Difference/Exp	(0.15)	(0.18)	(0.04)	0.19
	Some	Count	138	101	31	206
	college	Expected Count	146.6	92.8	28.8	207.8
		Difference/Exp	(0.06)	0.09	0.08	(0.01)
	College	Count	209	108	37	140
	graduate	Expected Count	152.2	96.3	29.8	215.7
		Difference/Exp	0.37	0.12	0.24	(0.35)
Self-reported	Fair/poor	Count	81	70	27	312
health		Expected Count	150.9	95.5	29.6	213.9
		Difference/Exp	(0.46)	(0.27)	(0.09)	0.46
	Excellent/	Count	434	256	74	418
	VG/Good	Expected Count	364.1	230.5	71.4	516.1
		Difference/Exp	0.19	0.11	0.04	(0.19)
Caregiving	Yes	Count	397	240	79	479
Responsibility		Expected Count	368.1	233	72.2	521.7
		Difference/Exp	0.08	0.03	0.09	(0.08)
	No	Count	118	86	22	251
		Expected Count	146.9	93	28.8	208.3

		Difference/Exp	(0.20)	(0.08)	(0.24)	0.20
Divorce	1-12 years	Count	24	13	2	20
recency	ago	Expected Count	18.2	11.5	3.6	25.8
		Difference/Exp	0.32	0.13	(0.44)	(0.22)
	13-24 years	Count	72	27	13	84
	ago	Expected Count	60.4	38.2	11.8	85.6
		Difference/Exp	0.19	(0.29)	0.10	(0.02)
	25 or more	Count	95	93	22	204
	years ago	Expected Count	127.5	80.7	25	180.8
		Difference/Exp	(0.25)	0.15	(0.12)	0.13
Age	62	Count	176	25	37	61
		Expected Count	92.1	58.3	18.1	130.5
		Difference/Exp	0.91	(0.57)	1.04	(0.53)
	63	Count	104	34	11	106
		Expected Count	78.5	49.7	15.4	111.3
		Difference/Exp	0.32	(0.32)	(0.29)	(0.05)
	64	Count	104	36	14	112
		Expected Count	81.9	51.9	16.1	116.1
		Difference/Exp	0.27	(0.31)	(0.13)	(0.04)
	65	Count	66	43	13	127
		Expected Count	76.7	48.5	15	108.7
		Difference/Exp	(0.14)	(0.11)	(0.13)	0.17
	66	Count	44	64	12	110

	Expected Count	70.8	44.8	13.9	100.4
	Difference/Exp	(0.38)	0.43	(0.14)	0.10
67	Count	15	53	10	101
	Expected Count	55.1	34.9	10.8	78.2
	Difference/Exp	(0.73)	0.52	(0.07)	0.29
68	Count	6	71	4	113
	Expected Count	59.8	37.8	11.7	84.7
	Difference/Exp	(0.90)	0.88	(0.66)	0.33

Note. Difference/Exp is a calculation of how different the actual count was from the expected count. The formula is (actual count – expected count) ÷ expected count. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Table 4.5 Crosstabs Analysis of Independent Variables by Category of Dependent Variable for Females, *N* = 2,241

Predictor Variable			Dependent Variable			
			Not retired, not receiving Social Security	Not retired, receiving Social Security	Retired, not receiving Social Security	Retired, receiving Social Security
Race	White	Count	397	313	81	690
		Expected Count	397.2	306.6	81.9	695.2
		Difference/Exp	0.00	0.02	(0.01)	(0.01)
	Black/Other	Count	204	151	43	362
		Expected Count	203.8	157.4	42.1	356.8
			0.00	(0.04)	0.02	0.01
Current	Married	Count	340	229	83	532
marital status		Expected Count	317.5	245.1	65.5	555.8
			0.07	(0.07)	0.27	(0.04)
	Divorced/	Count	173	102	18	231
	Separated	Expected Count	140.5	108.5	29	246
			0.23	(0.06)	(0.38)	(0.06)
	Widowed	Count	46	105	11	227
		Expected Count	104.3	80.5	21.5	182.6
			(0.56)	0.30	(0.49)	0.24
	Never	Count	42	28	12	62
	married	Expected Count	38.6	29.8	8	67.6
			0.09	(0.06)	0.50	(0.08)

Education	Less than	Count	82	98	12	259
	high school	Expected Count	121	93.4	25	211.7
			(0.32)	0.05	(0.52)	0.22
	High school	Count	142	138	23	323
	graduate	Expected Count	167.9	129.6	34.6	293.9
			(0.15)	0.06	(0.34)	0.10
	Some	Count	166	132	33	290
	college	Expected Count	166.5	128.6	34.4	291.5
			0.00	0.03	(0.04)	(0.01)
	College	Count	211	96	56	180
	graduate	Expected Count	145.6	112.4	30	254.9
			0.45	(0.15)	0.87	(0.29)
Self-reported	Fair/poor	Count	113	117	22	401
health		Expected Count	175.1	135.2	36.1	306.5
			(0.35)	(0.13)	(0.39)	0.31
	Excellent/	Count	488	347	102	651
	VG/Good	Expected Count	425.9	328.8	87.9	745.5
			0.15	0.06	0.16	(0.13)
Caregiving	Yes	Count	415	322	98	682
Responsibility		Expected Count	406.8	314.1	83.9	712.1
			0.02	0.03	0.17	(0.04)
	No	Count	186	142	26	370
		Expected Count	194.2	149.9	40.1	339.9

			(0.04)	(0.05)	(0.35)	0.09
Divorce	1-12 years	Count	28	20	4	38
recency	ago	Expected Count	24.1	18.6	5	42.2
			0.16	0.08	(0.20)	(0.10)
	13-24 years	Count	70	40	9	79
	ago	Expected Count	53.1	41	11	92.9
			0.32	(0.02)	(0.18)	(0.15)
	25 or more	Count	150	89	21	252
	years ago	Expected Count	137.3	106	28.3	240.3
			0.09	(0.16)	(0.26)	0.05
Age	62	Count	193	33	41	99
		Expected Count	98.2	75.8	20.3	171.8
			0.97	(0.56)	1.02	(0.42)
	63	Count	127	65	20	122
		Expected Count	89.6	69.2	18.5	156.8
			0.42	(0.06)	0.08	(0.22)
	64	Count	109	53	27	161
		Expected Count	93.9	72.5	19.4	164.3
			0.16	(0.27)	0.39	(0.02)
	65	Count	95	73	15	160
		Expected Count	92	71	19	161
			0.03	0.03	(0.21)	(0.01)
	66	Count	55	90	11	178

	Expected Count	89.6	69.2	18.5	156.8
		(0.39)	0.30	(0.41)	0.14
67	Count	9	84	5	163
	Expected Count	70	54	14.4	122.5
		(0.87)	0.56	(0.65)	0.33
68	Count	13	66	5	169
	Expected Count	67.9	52.4	14	118.8
		(0.81)	0.26	(0.64)	0.42

Note. Difference/Exp is a calculation of how different the actual count was from the expected count. The formula is (actual count – expected count) ÷ expected count. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

The category of *not retired, not collecting Social Security* represents respondents who are still working at age 62 to 68. They have not yet claimed Social Security benefits, either on their own record or on the record of their spouse/late spouse/ex-spouse. Female respondents in this category were 23% more likely to be divorced/separated and 56% less likely to be widowed than would be expected, given the relative proportion of these marital statuses to the entire female sample. Women in this category were more likely than expected to be college educated and more likely to have graduated high school. They were younger and in better health proportionately to the women in the sample. Female non-retirees were 32% more likely than expected to have been divorced 13-24 years ago, when they were in their 40s.

Males in this category were 21% less likely to be divorced/separated and 38% less likely to be widowed. Like females in this category, they were much more likely than expected to be college educated and less likely to have a GED. Men were also younger and in better health.

Men in this category were 31% more likely to be divorced 13-24 years ago than expected and 25% less likely than would be expected to have been divorced more than 25 years ago, before their 40s.

Females in the category of *retired and not receiving Social Security* are not working but have not yet claimed a benefit on their own record or that of a spouse/late spouse/ex-spouse. They could be maintaining their lifestyle by dissipating assets, receiving a pension, or living with family; their spouse could still be employed, supporting the household. These women are younger than their relative frequency in the sample would predict, and in better health. They are more likely to be married, and less likely to be currently divorced, ever divorced, or widowed. They were more likely than expected to be college educated; fewer than expected had not graduated high school. Their rate of caregiving responsibilities was higher than expected. The total number of women in this group was 124, the smallest category of the dependent variable.

Men who were retired and not receiving Social Security numbered only 101 respondents. They were 44% less likely to hold GEDs and 24% more likely to have a college degree than would be expected, given their proportion to the overall sample of males. They were more than twice as likely to be age 62 and 66% less likely to be age 68 than expected.

Women in the category of *not retired and receiving Social Security* are still working, at least part-time, and have claimed a Social Security benefit on their own record or that of a spouse/late spouse/ex-spouse. For individuals who have not yet reached their full retirement age according to Social Security Administration rules, earned income above a certain amount would reduce the amount of the benefit that they received. Workers under age 66 in this category earning more than $41,400 from employment would lose two-thirds of their benefit, and workers earning $15,400-$41,399 would lose half of their benefit (Social Security Administration, 2014).

Women in this category were 30% more likely to be widows and 37% more likely to be age 66 and older. They were 16% less likely than expected to have been divorced 25 or more years ago. Men in this category were 27% less likely to be in poor health, 60% more likely to be age 66 and older, and 23 more likely to have never married. They were 15% more likely than expected to have divorced at least 25 years ago.

The reference category for this analysis is *retired and receiving Social Security benefits*. It is the single most common but not the majority status of respondents in the sample, with 46.9% of females and 43.7% of males reporting that behavior. Women in this category were more likely than expected to be widows, non-high school graduates, in fair to poor health, and age 66 or older. They are less likely to be college graduates.

Men who were retired and on Social Security were also more likely than expected to be widows, non-high school graduates, age 66 or older, and in fair to poor health. They were less likely to have caregiver responsibilities or to have graduated from college.

Statistical Analysis

As a preliminary step, multinomial logistic regressions were run to confirm the significance of the predictor variables. Using backwards stepwise, forward stepwise, forward entry, backward elimination, forced entry, and main effects models, all of the predictor variables appeared in at least one significant outcome. Another model was attempted, forcing the traditional variables into the regression in one block then adding the gray divorce and recency of divorce variables in backwards stepwise, forward stepwise, forward entry, and backward elimination methods. The effects were too small to appear consistently. The SPSS output for these analyses is contained in Appendix G.

A crosstabs analysis of the gray divorce and recency of divorce variables (seen in Appendix H) showed very little overlap in the variables. As a result, they were recoded into one variable with four levels: gray divorced (1 -17 years prior to 2014), divorced before age 50 (13-24 years prior to 2014), long ago divorced (25 or more years prior to 2014), and never divorced (reference category).

The final model was a forced entry method. A multinomial logistic regression on the four-category dependent variable of being retired and taking Social Security with six independent variables was run for men and women separately.

Results for male respondents. The predictors and their effects in the model are summarized in Tables 4.6, 4.7, and 4.8. The reference group for the dependent variable is being retired and receiving Social Security benefits.

Table 4.6 Model Regression Results for Men - Not Retired, No Social Security *(N = 1,672)*

Variable	-2LL	B	Wald	Exp(B)	95% CI
Intercept	1,299.218	.411	4.038**		
Race (white = 1, black/other = 2)	1,301.350	.016	.015	1.017	[.778, 1.329]
Caregiving Responsibilities	1,303.266	.221	2.435	1.248	[.945, 1.648]
Marital status (1= divorced/separated)	1,308.215	-.355	3.843**	.701	[.491, 1.000]
Marital status (2 = widowed)	1,308.215	-.524	2.472	.592	[.308, 1.138]
Marital status (3 = never married)	1,308.215	.052	.038	1.053	[.625, 1.776]
Marital status (4 = married)					
Education (1 = did not graduate HS)	1,339.245	-.846	18.686***	.429	[.292, .630]
Education (2 = HS graduate)	1,339.245	-.794	21.335***	.452	[.323, .633]

Education (3 = some college)	1,339.245	-.615	14.583***	.541	[.394, .741]
Education (4 = college graduate and above)					
Self-reported health (1 = fair, poor)	1,364.515	-1.10	52.365***	.333	[.247, .448]
Self-reported health (2 = excellent, very good, or good)					
Gray divorced (1-17 years ago)	1,324.350	.175	.386	1.191	[.686, 2.070]
Recency of divorce (13 – 24 years ago)	1,321.195	.395	3.464*	1.484	[.979, 2.249]
Recency of divorce (25 or more years ago)	1,321.195	-.327	4.360**	.721	[.531, .980]
Recency of divorce (no divorce)					

Note. Cox & Snell $R^2 = .116$, Nagelkerke = .128, McFadden = .051, $\chi^2(36) = 206.659$, p = .000 *p < .10, **p < .05, ***p < .01. Reference category is being retired and receiving Social Security for males. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Table 4.6 reports the results of regressing six independent variables on the category of the dependent variable of retirement behavior of being not retired and not taking Social Security, as compared with the reference group of being retired and taking Social Security. Divorced/separated men were 30% less likely to be not retired and not taking Social Security benefits than married men who were retired and receiving Social Security benefits, $p < .05$. Males who did not graduate college were approximately half as likely to be not retired and not receiving Social Security benefits as college graduates who were retired and receiving Social Security benefits, $p < .01$. Men in fair or poor health were 67% less likely to be not retired and

not taking Social Security than men in better health who were retired and receiving Social Security benefits, $p < .01$.

Significant at the $p < .10$ level, males who were divorced 13-24 years prior to 2014 were almost 150% more likely to be not retired and not taking Social Security than married men who were retired and receiving Social Security benefits, while males who were divorced more than 25 years ago were 28% less likely to be not retired and not taking Social Security than never-divorced men who were retired and receiving Social Security benefits, $p < .05$. There was no significant effect for gray divorced men who were not retired and not receiving Social Security.

Table 4.7 Model Regression Results for Men – Retired, No Social Security *(N = 1,672)*

Variable	-2LL	B	Wald	Exp(B)	95% CI
Intercept	1,299.218	-1.44	15.725***		
Race (white = 1, black/other = 2)	1,301.350	-.153	.420	.858	[.540, 1.364]
Caregiving Responsibilities	1,303.266	.406	2.363	1.501	.894, 2.518]
Marital status (1= divorced/separated)	1,308.215	.115	.142	1.122	[.616, 2.044]
Marital status (2 = widowed)	1,308.215	.331	.500	1.393	[.556, 3.490]
Marital status (3 = never married)	1,308.215	.112	.057	1.118	[.446, 2.805]
Marital status (4 = married)					
Education (1 = did not graduate HS)	1,339.245	-1.28	11.078***	.277	[.130, .590]
Education (2 = HS graduate)	1,339.245	-.733	5.983**	.481	[.267, .864]
Education (3 = some college)	1,339.245	-.493	3.242*	.611	[.357, 1.045]
Education (4 = college graduate and above)					

Self-reported health (1 = fair, poor)	1,364.515	-.404	2.528	.668	[.406, 1.099]
Self-reported health (2 = excellent, very good, or good)					
Gray divorced (1-17 years ago)	1,324.350	-.413	.529	.662	[.217, 2.014]
Recency of divorce (13 – 24 years)	1,321.195	.016	.002	1.016	[.479, 2.155]
Recency of divorce (25 or more years)	1,321.195	-.280	1.032	.756	[.441, 1.297]
Recency of divorce (no divorce)					

Note. Cox & Snell R^2 = .116, Nagelkerke = .128, McFadden = .051, $\chi^2(36) = 206.659$, p = .000 *p < .10, **p < .05, ***p < .01. Reference category is being retired and receiving Social Security for males. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Table 4.7 reports the results of regressing six independent variables on the category of the dependent variable of retirement behavior of being retired and not taking Social Security, as compared with the reference group of being retired and taking Social Security. Being retired and not taking Social Security is the smallest category of the dependent variable, with only 101 male respondents. The only significant effect in this model was for education. Men who had less education than college graduates were at least 39% less likely to be retired and not on Social Security as men with college degrees who were retired and receiving Social Security benefits, p < .10.

Table 4.8 Model Regression Results for Men – Not Retired, on Social Security *(N = 1,672)*

Variable	-2LL	B	Wald	Exp(B)	95% CI
Intercept	1,299.218	-.352	2.307		

Race (white = 1, black/other = 2)	1,301.350	.177	1.312	1.193	[.882, 1.62]
Caregiving Responsibilities	1,303.266	.116	.546	1.123	[.826, 1.25]
Marital status (1= divorced/separated)	1,308.215	.003	.000	1.003	[.685, 1.47]
Marital status (2 = widowed)	1,308.215	-.079	.057	.924	[.483, 1.77]
Marital status (3 = never married)	1,308.215	-.208	.397	.812	[.425, 1.55]
Marital status (4 = married)					
Education (1 = did not graduate HS)	1,339.245	-.517	5.737**	.596	[.439, .910]
Education (2 = HS graduate)	1,339.245	-.715	12.629***	.489	[.330, .726]
Education (3 = some college)	1,339.245	-.322	3.145*	.725	[.507, 1.03]
Education (4 = college graduate and above)					
Self-reported health (1 = fair, poor)	1,364.515	-.825	25.028***	.438	[.317, .606]
Self-reported health (2 = excellent, very good, or good)					
Gray divorced (1-17 years ago)	1,324.350	.073	.054	1.076	[.58, 1.995]
Recency of divorce (13 – 24 years)	1,321.195	-.412	2.122	.662	[.38, 1.153]
Recency of divorce (25 or more years)	1,321.195	.058	.127	1.060	[.769, 1.46]
Recency of divorce (no divorce)					

Note. Cox & Snell R^2 = .116, Nagelkerke = .128, McFadden = .051, $\chi^2(36) = 206.659$, p = .000 *p < .10, **p < .05, ***p < .01. Reference category is being retired and receiving Social Security for males. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Table 4.8 reports the results of regressing six independent variables on the category of the dependent variable of retirement behavior of being not retired and taking Social Security, as compared with the reference group of being retired and taking Social Security. Male self-reported health was a strong predictor for this category of retirement behavior. Men reporting fair to poor health were more than 55% less likely to be not retired while receiving Social Security than men in good to excellent health who were retired and receiving Social Security benefits, $p < .01$. Men who had graduated high school but had not attended college were 50% less likely to be not retired while claiming Social Security benefits than college-educated men who were retired and receiving Social Security benefits, $p < .01$. Males with some college and with less than a high school education were 27 to 40% less likely to be not retired and taking Social Security than college-educated men who were retired and receiving Social Security benefits, $p < .10$.

To summarize the significant results for males, men in poor health were 56 to 67% less likely to be not retired, whether they were taking Social Security or not, than men in good health who were retired and taking Social Security. Men who had earned a GED or high school diploma but not a college degree were 27 to 57% less likely to be not retired, whether they were collecting Social Security benefits or not, than college educated men who were retired and taking Social Security. That group was also less likely to be retired and not claiming Social Security than the reference group of men with college degrees who were retired and taking Social Security. Finally, men who had divorced 13-24 years before the 2014 survey were 150% more likely to be not retired and not taking Social Security than never divorced men who were retired and on Social Security.

Results for female respondents. The independent variables and their effects in the model are summarized in Tables 4.9, 4.10, and 4.11. The reference group for the dependent variable is being retired and receiving Social Security benefits.

Table 4.9 Model Regression Results for Women – Not Retired, No Social Security *(N = 2,241)*

Variable	-2LL	B	Wald	Exp(B)	95% CI
Intercept	1,299.218	.467	6.447**		
Race (white = 1, black/other = 2)	1,301.350	-.208	3.002*	.812	[.641, 1.028]
Caregiving Responsibilities	1,674.882	-.081	.475	.733	[.736, 1.161]
Marital status (1= divorced/separated)	1,736.282	.189	1.726	1.208	[.911, 1.602]
Marital status (2 = widowed)	1,736.282	-1.032	32.43***	.356	[.250, .508]
Marital status (3 = never married)	1,736.282	.135	.359	1.145	[.736, 1.779]
Marital status (4 = married)					
Education (1 = did not graduate HS)	1,737.930	-.980	30.63***	.375	[.265, .531]
Education (2 = HS graduate)	1,737.930	-.800	29.31***	.449	[.336, .600]
Education (3 = some college)	1,737.930	-.662	20.67***	.516	[.388, .686]
Education (4 = college graduate and above)					
Self-reported health (1 = fair, poor)	1,722.933	-.862	42.43***	.422	[.326, .547]
Self-reported health (2 = excellent, very good, or good)					
Gray divorced (1 – 17 years ago)	1,680.496	.222	.627	1.248	[.721, 2.159]

Recency of divorce (13 – 24 years)	1,680.496	.388	3.821*	1.474	[.999, 2.176]
Recency of divorce (25 or more years)	1,680.496	.131	.935	1.139	[.875, 1.485]
Recency of divorce (no divorce)					

Note. Cox & Snell R^2 = .110, Nagelkerke = .121, McFadden = .049, $\chi^2(36) = 260.521$, p = .000 *p < .10, **p < .05, ***p < .001. Reference category is being retired and receiving Social Security for females. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Table 4.9 reports the results of regressing six independent variables on the category of the dependent variable of retirement behavior of being not retired and not taking Social Security, as compared with the reference group of being retired and taking Social Security. Several independent variables were significant for this retirement model for females. White women were 19% less likely to be not retired and not receiving Social Security benefits than women of other races who were retired and receiving Social Security benefits, p < .10. Females who had not graduated college were 50% less likely to be not retired and not taking Social Security than female college graduates who were retired and receiving Social Security benefits, p < .01. Women in fair to poor health were 58% less likely to be not retired and not claiming Social Security than healthy women who were retired and receiving Social Security benefits, p < .01. Separated and divorced women were 64% less likely to be not retired and not taking Social Security than married or single women or widows who were retired and receiving Social Security benefits, p < .01. Women who were divorced 13 – 24 years prior to the 2014 HRS survey were approximately 150% more likely to be not retired and not receiving Social Security than never-divorced women who were retired and receiving Social Security benefits, p < .10.

Table 4.10 Model Regression Results for Women – Retired, No Social Security *(N = 2,241)*

Variable	-2LL	B	Wald	Exp(B)	95% CI
Intercept	1,299.218	-.851	6.800**		
Race (white = 1, black/other = 2)	1,301.350	-.427	3.858**	.652	[.426, .999]
Caregiving Responsibilities	1,674.882	.382	2.572	1.465	[.919, 2.336]
Marital status (1= divorced/separated)	1,736.282	-.510	2.738*	.600	[.328, 1.099]
Marital status (2 = widowed)	1,736.282	-.983	8.449**	.374	[.193, .726]
Marital status (3 = never married)	1,736.282	.193	.293	1.213	[.603, 2.443]
Marital status (4 = married)					
Education (1 = did not graduate HS)	1,737.930	-1.567	19.51***	.209	[.104, .418]
Education (2 = HS graduate)	1,737.930	-1.273	22.27***	.280	[.165, .475]
Education (3 = some college)	1,737.930	-.901	13.48***	.406	[.251, .657]
Education (4 = college graduate and above)					
Self-reported health (1 = fair, poor)	1,722.933	-.646	6.209**	.524	[.316 .871]
Self-reported health (2 = excellent, very good, or good)					
Gray divorced (1 – 17 years ago)	1,680.496	.040	.005	1.041	[.341, 3.179]
Recency of divorce (13 – 24 years)	1,680.496	-.002	.000	.998	[.455, 2.189]
Recency of divorce (25 or more years)	1,680.496	-.282	1.105	.754	[.446, 1.276]
Recency of divorce (no divorce)					

Note. Cox & Snell R^2 = .110, Nagelkerke = .121, McFadden = .049, $\chi^2(36) = 260.521$, p = .000 *p < .10, **p < .05, ***p < .001. Reference category is being retired and receiving Social Security for females. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Table 4.10 reports the results of regressing six independent variables on the category of the dependent variable of retirement behavior of being retired and not taking Social Security, as compared with the reference group of being retired and taking Social Security. Race, education, health, and marital status had significant effects for women in this model. White women were 35% less likely than other races who were retired and receiving Social Security benefits to be retired and not receiving Social Security, p < .05. Non-college graduates were 60 to 79% less likely to be retired and not taking Social Security than female college graduates who were retired and receiving Social Security benefits, p < .05. Women who reported fair to poor health were half as likely as women in good to excellent health who were retired and receiving Social Security benefits to be retired and not getting Social Security, p < .05. Compared to married women who were retired and receiving Social Security benefits, females who were divorced/separated were 40% less likely to be retired and not receiving Social Security, p < .10, while widowed women were 64% less likely to exhibit this behavior, p < .05.

Table 4.11 Model Regression Results for Women – Not Retired, On Social Security *(N = 2,241)*

Variable	-2LL	B	Wald	Exp(B)	95% CI
Intercept	1,299.218	-.642	9.659**		
Race (white = 1, black/other = 2)	1,301.350	.012	.008	1.012	[.789, 1.297]
Caregiving Responsibilities	1,674.882	.093	.555	1.097	[.860, 1.401]

Marital status (1= divorced/separated)	1,736.282	.138	.728	1.148	[.836, 1.577]
Marital status (2 = widowed)	1,736.282	.128	.769	1.137	[.854, 1.513]
Marital status (3 = never married)	1,736.282	064	.065	1.066	[.653, 1.739]
Marital status (4 = married)					
Education (1 = did not graduate HS)	1,737.930	-.113	.370	.893	[.620, 1.286]
Education (2 = HS graduate)	1,737.930	-.124	.558	.884	[.639, 1.222]
Education (3 = some college)	1,737.930	-.088	.279	.915	[.660, 1.270]
Education (4 = college graduate and above)					
Self-reported health (1 = fair, poor)	1,722.933	-.569	18.52***	.566	[.437, .734]
Self-reported health (2 = excellent, very good, or good)					
Gray divorced (1 – 17 years ago)	1,680.496	.131	.191	1.140	[.634, 2.048]
Recency of divorce (13 – 24 years)	1,680.496	.071	.103	1.073	[.697, 1.654]
Recency of divorce (25 or more years)	1,680.496	-.249	2.794*	.780	[.583, 1.044]
Recency of divorce (no divorce)					

Note. Cox & Snell R^2 = .110, Nagelkerke = .121, McFadden = .049, $\chi^2(36) = 260.521$, p = .000 *p < .10, **p < .05, ***p < .001. Reference category is being retired and receiving Social Security for females. Data sources are the 1996 through 2014 waves and the Tracker file of the Health and Retirement Study, University of Michigan Institute for Social Research, and the 2014 version from the RAND Center for the Study of Aging.

Table 4.11 reports the results of regressing six independent variables on the category of the dependent variable of retirement behavior of being not retired and taking Social Security, as

compared with the reference group of being retired and taking Social Security. For females who were working while receiving Social Security, two independent variables were significant. Women in fair to poor health were almost half as likely as women in better health who were retired and receiving Social Security benefits to be not retired and taking Social Security benefits, $p < .05$. At the $p < .10$ level of significance, women who had divorced more than 25 years ago were 22% less likely to be not retired while receiving Social Security as never-divorced women who had retired and were receiving Social Security.

To summarize the significant results for females, women who were in poor health were 44 to 58% less likely to be not retired, whether they were taking Social Security benefits or not, than women in good health who were retired and on Social Security. Widows were 64% less likely to be not retired and not collecting Social Security than married women who were retired and taking Social Security. Widows were also 63% less likely to be retired and not taking Social Security than married women who were retired and on Social Security. White women, whether they were retired or not, were 19 to 35% less likely to be taking Social Security than black women who were retired and on Social Security. Women with less than a college degree were much less likely to be retired and not taking Social Security, or retired and not taking Social Security, than college educated women who were retired and taking Social Security. Finally, women who were divorced 13-24 years prior to 2014 were about 150% more likely to be not retired and not taking Social Security than never-divorced women who were retired and taking Social Security.

Summary results. Table 4.12 summarizes the results for both males and females. No predictor variable was significant for all of the categories of the dependent variable. Getting divorced after age 50 and having caregiving responsibilities were not significant for either

gender, for any category of retirement behavior. Education was often a significant predictor, as was reporting fair to poor health. Race was sometimes significant for women. Current marital status and recency of divorce were significant in some of the specifications, but no clear patterns emerged from the analysis.

Table 4.12 Summary of Model Regression Results for Males and Females *(N = 3,913)*

		Not Retired, Not Taking SS		Retired, Not Taking SS		Not Retired, Taking SS	
Variable		Men	Women	Men	Women	Men	Women
Race	B	.016	-.208	-.153	-.427	.177	.012
	Exp(B)	(1.017)	(.812)*	(.858)	(.652)**	(1.193)	(1.012)
Caregiving	B	.221	-.081	.406	.382	.116	.093
	Exp(B)	(1.248)	(.733)	(1.501)	(1.465)	(1.123)	(1.097)
Divorced/Sep	B	-.355	.189	.115	-.510	.003	.138
arated	Exp(B)	(.701)**	(1.208)	(1.122)	(.600)*	(1.003)	(1.148)
Widowed	B	-.524	-1.032	.331	-.983	-.079,	.128
	Exp(B)	(.592)	(.356)***	(1.393)	(.374)**	.924)	(1.137)
Never married	B	.052	.135	.112	.193	-.208	.064
	Exp(B)	(1.053)	(1.145)	(1.118)	(1.213)	(.812)	(1.066)
not HS	B	-.846	-.980	-1.28	-1.567	-.517	-.113
graduate	Exp(B)	(.429)***	(.375)***	(.277)***	(.209)***	(.596)**	(.893)
HS graduate	B	-.794	-.800	-.733	-1.273	-.715	-.124
	Exp(B)	(.452)***	(.449)***	(.481)**	(.280)***	(.489)***	(.884)

Some college	B	-.615	-.662	-.493	-.901	-.322	-.088
	Exp(B)	(.541)***	(.516)***	(.611)*	(.406)***	(.725)*	(.915)
Fair, poor	B	-1.10	-.862	-.404	-.646	-.825	-.569
health	Exp(B)	(.333)***	(.422)***	(.668)	(.524)**	(.438)***	(.566)***
Gray divorced	B	.175	.222	-.413	.040	.073	.131
1 – 17 years	Exp(B)	(1.191)	(1.248)	(.662)	(1.041)	(1.076)	(1.140)
before 2014							
Divorced 13 –	B	.395	.388	.016	-.002	-.412	.071
24 years	Exp(B)	(1.484)*	(1.474)*	(1.016)	(.998)	(.662)	(1.073)
before 2014							
Divorced 25	B	-.327	.131	-.280	-.282	.058	-.249
or more years	Exp(B)	(.721)**	(1.139)	(.756)	(.754)	(1.060)	(.780)*
before 2014							

Note. For males, Cox & Snell $R^2 = .116$, Nagelkerke = .128, McFadden = .051, $\chi^2(36) = 206.659$, p = .000; for females, Cox & Snell $R^2 = .110$, Nagelkerke = .121, McFadden = .049, $\chi^2(36) = 260.521$, p = .000. Reference categories are Black/Other race, no caregiving responsibilities, currently married, college graduate and above, excellent to good health, and never divorced.
*p < .10, **p < .05, ***p < .001

Chapter 5 - Discussion

This study investigated the effect of late-life divorce on the behavior of retiring or not and the separate but related behavior of taking Social Security benefits. Six predictor variables, ranging from demographic to lifestyle to gray divorce-related, were used to create a model that was tested using multinomial logistic regression. Results and limitations of the study will be addressed, along with implications for research, policy, and practitioners.

Research Question

The retirement behavior of almost 4,000 Baby Boomers, ages 62 to 68, was reported in the 2014 wave of the Health and Retirement Study. The sample analyzed here was drawn from the cohort born in the first six years after WWII, 1946 to 1952. They grew up in the mid-20th century, and are now entering a potentially lengthy retirement in the early decades of the 21st century.

Most Americans age 65 or older receive Social Security retirement benefits (Social Security Administration, 2014). Benefits do not begin automatically; they must be claimed at the appropriate time through an active application process (Social Security Administration, 2019). The decision to stop working may be a deliberate choice or beyond one's control. For many people, retirement occurs at or near the time that eligibility for Social Security benefits begins.

In order to refine these dimensions of retirement behavior, a dependent variable was created for this study with four combinations of the two events. The retirement-related actions of claiming Social Security benefits or not were combined with exiting the workforce or not. This resulted in four groups of respondents that differed based on their workforce participation and Social Security benefit claiming behavior.

In addition to their cohort's size and anticipated longevity, Baby Boomers have exhibited frequent marital dissolutions over their life course. Baby Boomers are the generation most likely to be divorced (Brown & Lin, 2012). Although divorce is negatively correlated with age, Baby Boomers continue to divorce at older ages (Brown & Lin, 2012).

Wealth can be negatively impacted by divorce (Munnell, Hou, & Sanzenbacher, 2018). Older divorcees may have more wealth to lose than individuals who divorce at younger ages (Zissimopoulos, 2013). Marital dissolution on the cusp of retirement or after its inception leaves little or no time to recover financially before retirement. Women who divorce after age 50 are more likely to face economic challenges in late life than women who remain married, never married, become widowed, or than men (Lin, Brown, & Hammersmith, 2015).

Many Americans have inadequate reserves to fund their retirement years (Employee Benefit Research Institute, 2017). Social Security benefits provide a major source of income for more than half of retirees (Social Security Administration, 2017a). With insufficient savings further reduced by divorce, older individuals may delay retirement. The hypotheses proposed for this study explored the possible relationship between late-life divorce and workforce participation. The hypotheses tested were:

H_1: Men who were divorced after age 50 are less likely to be retired and receiving Social Security retirement benefits at and after age 62 than men who did not divorce after age 50.

H_2: Women who were divorced after age 50 are less likely to be retired and receiving Social Security retirement benefits at and after age 62 than women who did not divorce after age 50.

Tested Hypotheses Results

The results of multinomial logistic regression on the outcome variable of retirement and receiving Social Security for men and for women were the same. For either gender, gray divorce was not significant for any category of the dependent variable, $p > .10$. Divorcing after age 50 did not decrease the likelihood of being retired and/or taking Social Security benefits at ages 62 to 68 for Baby Boomer men or women in this sample of respondents. Although the hypotheses were grounded in a theoretical perspective and supported by past peer-reviewed research, the null hypothesis held for both men and women.

To help put the results in context, the backbones of the study – the Lifecycle Hypothesis (Ando & Modigliani, 1957) and Lin and Brown's "The Gray Divorce Revolution" (2012) – should be noted. The research question was very specific about the impact of the timing of divorce on the retirement stage of the life course. Only divorces occurring after age 50 were hypothesized to impact workforce exits and Social Security claiming.

Although the literature supported the significance of late-life divorce, the research question could have been more exploratory, and therefore inclusive of more than one stage in life that divorce takes place. A theoretical perspective that considers non-economic as well as economic factors could have been used to guide the study. With an exploratory hypothesis or a broader philosophy, it might not have been unanticipated to observe that divorces occurring 13 to 24 years prior to retirement (when respondents were approximately in their 40s) were associated with a high likelihood of not retiring and not taking Social Security in their 60s as compared with their married peers who were retired and collecting Social Security. The result deserves further investigation.

Additional Model Results

Some independent variables in the model did show significant effects on the dependent variable. Some effects were predicted by the literature, a few were unexpected. For example, education is held as a proxy for income in labor economics studies, so education was likely to have a significant effect (Ehrenberg & Smith, 2012). Being divorced 13 to 24 years prior to 2014, a level of the divorce recency variable that was designed to compare to gray divorce, turned out to be significant while gray divorce was not. Variables that should have consistently correlated with retirement, such as caregiving responsibilities, were not significant. These findings underscore the uniqueness of the study's model, with its dependent variable that combines retirement status with Social Security benefit receipt.

To help understand the effects, the context will be the categories of the dependent variable. Each category represents the retirement and Social Security claiming behavior of a discrete group of individuals. Results were presented in Tables 4.4 through 4.11.

Not retired, not receiving Social Security. Respondents in this category tended to be younger than age 66. This is an expected outcome because the Lifecycle Hypothesis posits a positive correlation between age and retirement. Typical of people still working in this age group, they reported good to excellent health (Fisher, Chaffee, & Sonnega, 2016).

Differences between the genders are centered on marital status and marital history. Males were 21% less likely to be divorced/separated while females were 23% more likely to be divorced/separated than would be expected, given their proportions to the entire sample. The odds of women remaining single after divorce are much higher than men's (Finch, 2014).

Although both genders were much less likely to be widows, men were 38% less likely than expected and women were 56% less likely to be widows than would be proportional to the

overall sample. There is a positive association between widowhood and age, so a younger group should have fewer widows (Brown, Lin, Hammersmith, & Wright, 2018).

Both genders had more respondents who had divorced 13-24 years ago than would be expected proportionate to their category in the sample. Men were 19% more likely to have divorced during their late 30s to late 40s, and women were 32% more likely to have divorced in that age range.

Results of the multinomial logistic regression on this category of retirement behavior showed significant effects that were the same for three variables and differed on two predictors. Both women and men who had not graduated college were approximately 50% less likely to be working and not taking Social Security benefits as compared with college graduates who were retired and taking Social Security, $p < .01$. Since education is a proxy for income, this means that lower income respondents were less likely to be participating in the workforce than higher income respondents. Research on retirement timing has found that higher income workers retire earlier than lower income workers, as well as the reverse (Fisher, Chaffee, & Sonnega, 2016).

Men and women in fair to poor health were 58% (females) to 67% (males) less likely to be not retired and not receiving Social Security than healthy respondents who were retired and receiving Social Security, $p < .01$. Poor health is one of the most common reasons for retiring (Fisher, Chaffee, & Sonnega, 2016). Although excellent health has been associated with earlier retirement in some studies, as workers choose to maximize leisure time while they are still in good physical condition, this study did not find that association.

Male and female respondents who had been divorced 13-24 years prior to the 2014 survey wave were 1.5 times more likely to be working and refraining from collecting Social Security than respondents who had never been divorced and who were retired and collecting

Social Security, $p < .10$. This dissertation hypothesized an association between gray divorce and non-retirement. That relationship was not supported by the analysis, but a relationship was found at a different level of divorce recency.

Previous research has linked workers who divorced in their 30s and 40s to delayed retirement. Olivetti and Rotz (2017) found that Baby Boomer women who did not graduate college were less likely to work full-time when they were ages 50-74 if they divorced between age 30 and age 50. Another study compared retirement savings of HRS respondents who divorced in their 30s and 50s at 65 to 66 years old (Hung & Knapp, 2017). It showed that individuals who divorced in their 30s had a greater negative difference in wealth compared with their ever-married peers than the difference in wealth between gray divorced women and ever-married women at those ages (Hung & Knapp, 2017). A Dutch study found that women who divorced after age 40 were more likely to retire later than other women (Damman, Henkens, & Kalmijn, 2015).

In addition to the significant effect for both genders of a divorce 13-24 years ago, men who had divorced at least 25 years prior to the 2014 survey were 28% less likely to be not retired and not on Social Security than never-divorced men who were retired and receiving Social Security, $p < .05$. Males who divorced earlier in life, when they were in their 20s and 30s, were likely to have remarried (Karraker & Dorius, 2016). It is possible that they have another, somewhat younger family to support, so they remained in the workforce. Women who divorced over 25 years ago were not more likely to be working and not on Social Security than never-divorced women who were retired and on Social Security.

The other predictor variable that differed between the genders was current marital status. Men who were divorced or separated in 2014 were 30% less likely to be working and not on

Social Security than married men who were retired and receiving Social Security, $p < .05$. As noted above, men who were divorced more than 25 years ago had a similarly reduced probability of this category of retirement behavior. Further research on characteristics shared by the men who were divorced long ago and the currently divorced men may shed light on this similarity. Although not documented in the research literature, it is also possible that the men retired in order to avoid paying alimony or to appear to need alimony if their divorces were more recent (Gitlin, 2009).

Women who were currently divorced were not significantly more or less likely to be not retired and not on Social Security as compared to married women who were retired and receiving Social Security. Widowed women were 64% less likely to be working and not taking Social Security than married women who were retired and receiving Social Security, $p < .01$. Widows qualify for a Social Security retirement benefit on their late spouses' records as early as age 60, as long as they have not remarried (Weaver, 2010). They retain all of the marital estate upon the loss of a spouse, unlike divorcees, which allows them to retire earlier (Iams & Tamborini, 2012; Karraker & Dorius, 2016).

Retired, not receiving Social Security. This category had the smallest number of respondents. Retirees who are not taking Social Security are using their savings or income that they did not earn from employment to pay their living expenses. It is not surprising that women in this category are more likely to be married than expected, and unlikely to be divorced or widowed, because married women in their 60s typically have their husband's income and assets available for support (Beblo & Beninger, 2017). They were more likely to have caregiving responsibilities than would be expected proportionately to the sample. Both men and women in

this category were more likely to be college graduates than is expected, given the category's proportion to the entire sample.

The multinomial logistic regression analysis for this category of retirement behavior resulted in four independent variables with significant effects for females; one independent variable was significant for males. Education was significant for both genders. Men who did not graduate high school were 73% less likely to be retired and not receiving Social Security than college educated men who were retired and receiving Social Security, $p < .01$; men who had graduated high school but not college were 39-52% less likely to be out of the workforce and not taking Social Security as compared to men who had graduated college and were retired and receiving Social Security, $p < .10$. Women who did not graduate high school were 79% less likely to be retired and not receiving Social Security than college-educated women who were retired and receiving Social Security, $p < .01$; women who had graduated high school but not college were 59-72% less likely to be out of the workforce and not taking Social Security as compared to women who had graduated college and were retired and receiving Social Security, $p < .01$.

At first glance, this result seems to contradict prior research. Education has been positively associated in many studies with timing of retirement; individuals with less education have been found to retire earlier, and workers with greater years of education tend to retire later (Fisher, Chaffee, & Sonnega, 2016). However, this category of retirement behavior measures labor force participation as well as Social Security benefit receipt, unlike other studies. Since lower education levels are similar to lower income and net worth, it could be anticipated that individuals who have fewer financial resources are less likely to retire without receiving Social Security.

Race was significant for women. White women were 35% less likely than black, Hispanic, or other minority women who were retired and receiving Social Security to be retired and not taking Social Security, $p < .05$. This finding is consistent with literature reporting early labor force exits for older black women due to medical issues and unequal access to employment opportunities (Fisher, Chaffee, & Sonnega, 2016; McNamara & Williamson, 2004). Health was also significant for females but not for males. Women who reported good to excellent health were 48% less likely to be retired but not claiming Social Security benefits than women who reported fair to poor health and were retired and receiving Social Security, $p < .05$. Interestingly, men in good health were no more or less likely than men in poor health to be in this category. However, only 27 respondents exhibited this retirement behavior, reducing the study's ability to determine this variable's significance to a statistically satisfactory level.

Current marital status had two significant effects for this category of retirement behavior for females. Women who were divorced or separated in 2014 were 40% less likely to be retired and not on Social Security than married women who were retired and receiving Social Security, $p < .10$, while widows were 62% less likely to be not retired and not receiving Social Security as compared to married women who were retired and receiving Social Security, $p < .01$. Women who never married were not significantly more likely than married women who were retired and receiving Social Security to be retired and not taking Social Security. It appears that women who have lost a spouse, and the income (and assets, if divorced) that come from a spouse, were less likely to be retired without the safety net of Social Security benefits.

Not retired, receiving Social Security. A significant effect for health was found for both genders. Males in fair to poor health were 56% less likely to be working while receiving Social Security as compared with men in good health who were retired and receiving Social Security,

and females in fair to poor health were 43% less likely to be in the workforce and taking Social Security than females in good health who were retired and receiving Social Security, $p < .01$. This outcome is expected because poor health is a primary reason for retiring early (Fisher, Chaffee, & Sonnega, 2016; McDonough, Worts, Corna, McMunn, & Sacker, 2017).

Education was significant for males, and divorce recency was significant for females. Men who had a high school education were half as likely to be in the labor force and receiving Social Security as men with college degrees who were retired and receiving Social Security, $p < .01$. Men with less than a high school diploma, $p < .05$, and men who had not graduated college, $p < .10$, were also less likely to be working full-time and on Social Security than men who had graduated college and were retired and receiving Social Security. As discussed above, higher education is consistently associated with later exits from the workforce. Social Security benefits were reduced by one-half to two-thirds for workers younger than age 66 who earned more than $15,400-$41,399 in 2014 (Social Security Administration, 2014). It is plausible that low-earning men would not elect to be working while receiving benefits, since their benefits could be decreased drastically.

Females who had divorced at least 25 years ago were 22% less likely to be working while receiving Social Security than women who had never divorced and were retired and receiving Social Security, $p < .10$. Women in this group tended to be older widows. Since widows are eligible to receive their late spouse's full retirement benefit as a survivor benefit, they may be less likely to remain in the workforce before full retirement age in order to avoid losing the income from Social Security.

Results in Theoretical Context

The Lifecycle Hypothesis predicts that individuals will stop working and spend down their resources in their old age. Factors that have consistently been found to be correlated with retirement decisions include race, education, marital status, family caregiving responsibilities, and health (Fisher, Chaffee, & Sonnega, 2016; Hubener, Maurer, & Mitchell, 2016; McNamara & Williamson, 2004). A late life economic shock that reduces income available for support and household assets, such as a divorce, could delay retirement. Since men's and women's finances are affected to a different extent by marital dissolution, gray divorce could vary in its economic implications by gender.

This study used multinomial logistic regression to test the hypotheses. Gray divorce had no significant effect for either gender. Individuals who divorced after age 50 did not significantly differ in their retirement status or Social Security benefit receipt from respondents who were had never married or never divorced. The change in circumstances did not have a permanent effect on retirement timing in this analysis. The economic shock to an individual over age 50 of living solely on one's own income, incurring the expenses of establishing a new household, and dividing financial assets, did not delay workforce exit or Social Security retirement benefit claiming. Health, education (also a proxy for financial resources), and widowhood were much more important differences between retired and non-retired people in this sample. The growth in late-life divorce appears to be a demographic phenomenon, but not a crucial factor in retirement timing.

The finding that divorce in the decade preceding age 50 can have an impact on the likelihood of retirement and taking Social Security does not contradict the theoretical perspective of the Lifecycle Hypothesis. Marital dissolutions in these mid-life years might be occurring at a

more critical stage for wealth accumulation. This deserves further study since a greater number of divorces take place before age 50 than after age 50.

Limitations of Study

Although this study was designed to be generalizable to the United States, the sample population may not replicate the country exactly. It is possible that the respondents in the HRS, a highly regarded statistical representation of the United States, may differ from the general population in some dimension that is not measured by the survey and that has not been previously noted in peer reviewed journals. Because the HRS population is balanced geographically, it may not be prudent to apply findings to specific locales, such as large metropolitan areas or rural farm towns.

The sample's gray divorce rate of 6.2 persons per 1,000 married persons is close to the rate of 6.9 persons per 1,000 married persons as estimated in 2012 by demographers (Brown & Lin, 2012). The study's population includes individuals ages 62-68, while the demographers used United States Census data on Americans age 65 and older. Nonetheless, the HRS has been used in many peer-reviewed studies of gray divorce (Brown, Lin, & Wright, 2015; Hung & Knapp, 2017; Lin, Brown, & Hammersmith, 2015; Palmer, 2015).

The total number of gray divorced respondents was small, hindering effect size. If a larger group of gray divorced individuals could be surveyed than was found in this sample of the HRS, perhaps different variables would have significant effects, or the explanatory power of the model would be stronger.

The caregiving responsibilities variable was created for this study to represent the variety of duties that impact retirement decisions (Fisher, Chaffee, & Sonnega, 2016). The number of hours of caregiving duties provided in the variable begins at 50 hours per year, which is probably

a low barrier to retirement. More importantly, the HRS does not include questions in its survey asking respondents about personal care, services, or chores they provide for their spouse, although they ask spouses about care they provide for the respondent. Spousal caregiving is often considered by women when contemplating workforce exits (Dentinger & Clarkberg, 2002; Matthews & Fisher, 2013).

The reference marital status category in this analysis is married couples, since it is the most frequently occurring condition of the variable. Although most previous economic research assumes that married couples pool resources, it is acknowledged that marital assets can be shared in different ways. Married couples may appear to possess twice the net worth of single individuals, but that is not always the case. For example, some married couples hold bank accounts solely in their own names, and allocate their separate assets and income between shared household expenses and individual expenses (Commuri & Gentry, 2005). Inherited assets from a parent or other relative may be held in trust for the benefit of the inheriting spouse, and not be available for household consumption (Greenblatt, Taib-Lopez, & Benevento, 2017). The implications of non-pooled marital assets include disproportionate divisions of resources in divorce and reduced valuations of marital assets in this study.

Because this study focused on Baby Boomers, the results may not be generalizable to other cohorts. Younger generations have more debt, more employer changes, marry later, divorce less, and have fewer children than Baby Boomers (Fisher, Chaffee, & Sonnega, 2016; Lusardi, Mitchell, & Leggero, 2017; Ruel & Hauser, 2013). Social Security is not expected to be able to pay the benefits that younger workers will have accrued (Social Security Administration, 2018c). Generation X's and Millennial's retirement decisions may differ from the ones Baby Boomers face.

Implications of Study

Couples who are in their prime earning years are engaging in dissolutions in increasing numbers. The divorce rate for Americans age 50 and older tripled from 1980 to 2010 (Brown & Lin, 2012). If gray divorce delayed retirement, more individuals could be remaining in the workforce in their 60s. Even though that hypothesis was not upheld with this particular sample, variables, and statistical approach, there are meaningful implications of this study.

Poor health was a significant variable for both genders for most of the retirement behaviors in the study. Improving workers' health may lengthen the duration of their labor force participation. Later retirements mean more savings accumulated and higher Social Security benefits (Shriver, 2010).

Social Security policy could be influenced by the results of this study. Current regulations penalize Social Security benefits for workers age 62-66 when employment earnings exceed specified levels. This study shows that 20.0% of the sample was working while taking Social Security, potentially losing their benefits in order to pay their bills. Regulations could be modified to raise earnings limits for workers whose income and/or assets are below poverty thresholds. Time spent in caregiving for family members could be credited to a worker's record, increasing benefits available at retirement.

Minority female respondents were significantly less likely to be claiming Social Security benefits, whether they were retired or working. Research has indicated that low participation in the labor force of black women, resulting in fewer quarters of qualifying earnings for Social Security, can be due to job discrimination (Fisher, Chaffee, & Sonnega, 2016). Black women, especially those who experienced divorce, have been found to have low wealth at retirement (Hung & Knapp, 2017). Black women are also less likely to be able to claim a survivor's Social

Security benefit (Iams & Tamborini, 2012). Public policies can be formulated that encourage employment opportunities for older minority women.

Practitioners will increasingly be faced with clients or prospects who are getting divorced in their 50s and older. Financial advisors who provide retirement planning services should become more familiar with Social Security claiming strategies. They should never assume that the 50-year old couple who is consulting them will remain married through their 50th anniversary.

Recommendations for Future Research

The effect size for the regression models was small. As reported in Tables 4.6 to 4.11, the measures of model fitness are the same for each category of the dependent variable, but differ by gender. For women, the Cox & Snell R^2 was .110, Nagelkerke was .121, McFadden was .049, $\chi^2(36)$ was 260.521; for men, the Cox & Snell R^2 was .116, Nagelkerke was .128, McFadden was .051, $\chi^2(36)$ was 206.659. This study was only able to explain approximately 11% of the retirement behaviors of leaving the workforce and taking Social Security benefits. More variables could be added to the multinomial logistic regression that may add to our understanding of the impact of late-life divorce on retirement decisions. Some of these variables are not available in the dataset; others could be constructed using combinations of variables from raw data and the RAND dataset.

The effects of pensions would add new variables to the existing model, but their implications would be limited. Pensions can cover living expenses from the date of retirement, as early as age 50, until Social Security is claimed, which allows the benefit to grow (Gustman & Steinmeier, 2005; McDonald & Robb, 2004). However, as long ago as 2008, most Baby Boomers have not participated in defined benefit pensions plans (Lown, 2008).

Supporting dependent children, both financially and physically, is associated with early exit from the workforce (Finch, 2014; Fisher, Chaffee, & Sonnega, 2016; Karraker & Dorius, 2016). The HRS asks a number of questions regarding financial contributions to children. Learning about economic aid older parents give to their children and grandchildren may add to our understanding of retirement behavior.

Many more dimensions of employment could be investigated, to further clarify retirement timing decisions. This study defined retirement as complete non-participation in the labor force. However, many Americans work part-time in their 60s, so we should learn more about their retirement behaviors (Ruel & Hauser, 2013). Women are more likely than men to work part-time (Finch, 2014; Gustman & Steinmeier, 2015). However, part-time employment contributes little to building Social Security benefits (Gustman & Steinmeier, 2015; Hubener, Maurer, & Mitchell, 2016). Some workers take bridge employment before fully retiring. In other words, they step down from a position of authority to a position with fewer hours, less responsibility, and lower pay (Fisher, Chaffee, & Sonnega, 2016). Returning to work after retiring is another path that retirees are increasingly taking (Fisher, Chaffee, & Sonnega, 2016). The impacts of these levels of employment should be researched as well. Occupation or job class, associated in the literature with retirement timing, could be added to the model as a predictor (Fisher, Chaffee, & Sonnega, 2016).

Remarriage can re-build assets to pre-divorce levels (De Vaus, Gray, Qu, & Stanton, 2007; Szinovacz & Deviney, 2000). However, remarriages are more prone to divorce, especially to divorce at older ages (Lin, Brown, Wright, & Hammersmith, 2016). Individuals who remarried after gray divorce may exhibit retirement behaviors that vary from ever divorced, gray divorced, or ever-married individuals. This possibility should be added to future research

models. Remarriage is not a variable that is contained in the raw data of the HRS nor the RAND dataset, so it would require construction.

The multinomial regression models were run separately for men and women, because financial implications of divorce differ by gender. However, this statistical technique does not allow comparisons of the effect of gray divorce on retirement behavior by gender. Future studies could run analyses that compared results for men and women, to see if there is a significant difference between effects by gender.

Conclusion

The incidence of couples over age 50 getting divorced has increased dramatically since Baby Boomers reached those ages, as evidenced by United States Census records used to compare marriages dissolving in 1990 with divorces occurring in 2010 (Brown & Lin, 2012). Pew Research Center data from 2015 found that the gray divorce rate was continuing (Moore, 2017; Stepler, 2017). Many couples in the over-50 age group have amassed a lifetime of assets saved for retirement. They often seek professional guidance on financial planning for their divorce. The legal dissolution of a marriage can engender tax implications, budget revisions, retirement plan divisions, asset valuation, estate plan changes, and future projections of settlement proposals, among other financial issues.

The Institute for Divorce Financial Analysts certifies financial professionals to provide legal information and financial advice to people who are considering or going through a divorce. The American Institute of Certified Public Accountants also provides training to its members on supporting the divorce litigation process. Realtors can study to become Certified Divorce Real Estate Experts® or Real Estate Collaboration Specialists-Divorce®. Business valuation experts, forensic accountants, vocational coaches, mortgage brokers, mediators, and others are consulted

by people getting divorced. Attorneys, judges, and financial planners use Family Law Software® to calculate settlements and project retirement prospects for divorcing couples.

The over-arching theme for all of these professionals and the tools they employ is the question asked by individuals over age 50: if I get divorced now, will I be able to retire? This study represents an academic response to that question.

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Appendix A - Full Retirement Age to Receive Social Security Retirement Benefits by Year of Birth, and Reduction of Benefits for Claims at Age 62, for Workers and Spouses

Full Retirement and Age 62 Benefit by Year of Birth						
Year of Birth [1]	Full (normal) Retirement Age	Months between age 62 and full retirement age [2]	At Age 62 [3]			
			A $1000 retirement benefit would be reduced to	The retirement benefit is reduced by [4]	A $500 spouse's benefit would be reduced to	The spouse's benefit is reduced by [5]
1937 or earlier	65	36	$800	20.00%	$375	25.00%
1938	65 and 2 months	38	$791	20.83%	$370	25.83%
1939	65 and 4 months	40	$783	21.67%	$366	26.67%
1940	65 and 6 months	42	$775	22.50%	$362	27.50%
1941	65 and 8 months	44	$766	23.33%	$358	28.33%
1942	65 and 10 months	46	$758	24.17%	$354	29.17%
1943-1954	66	48	$750	25.00%	$350	30.00%

Full Retirement and Age 62 Benefit by Year of Birth						
Year of Birth [1]	Full (normal) Retirement Age	Months between age 62 and full retirement age [2]	At Age 62 [3]			
			A $1000 retirement benefit would be reduced to	The retirement benefit is reduced by [4]	A $500 spouse's benefit would be reduced to	The spouse's benefit is reduced by [5]
1955	66 and 2 months	50	$741	25.83%	$345	30.83%
1956	66 and 4 months	52	$733	26.67%	$341	31.67%
1957	66 and 6 months	54	$725	27.50%	$337	32.50%
1958	66 and 8 months	56	$716	28.33%	$333	33.33%
1959	66 and 10 months	58	$708	29.17%	$329	34.17%
1960 and later	67	60	$700	30.00%	$325	35.00%

Appendix B - Social Security Retirement Benefit Percentage Increase for Delayed Retirement, by Year of Birth

Year of Birth	12-Month Rate of Increase	Monthly Rate of Increase
1933-1934	5.5%	11/24 of 1%
1935-1936	6.0%	1/2 of 1%
1937-1938	6.5%	13/24 of 1%
1939-1940	7.0%	7/12 of 1%
1941-1942	7.5%	5/8 of 1%
1943 or later	8.0%	2/3 of 1%

Appendix C - Deleted Cases Documentation

The following steps were used to create the dataset:

Step	Number deleted	Sample size
Start with RAND HRS dataset, 2014 wave		N = 18,747
Select respondents born 1946-1952	14,794	N = 3,953
No gender	2	N = 3,951
No race	9	N = 3,942
No education	1	N = 3,941
No self-reported health	4	N = 3,937
No marriage begin date or marriage length	24	N = 3,913

Note. Variable names are descriptive. They are not the coded labels used in the RAND dataset.
Source. Author.

Appendix D - Gray Divorce Variables Creation

The Gray Divorce and Recency of Divorce variables are not in the HRS, so they were created for this study. Although these variables have been used by other researchers, no methods for the variables' derivation have been published. The complicated methods of determining whether or not a respondent was divorced after age 50 or remarried after divorce are another unique feature of this study.

Respondents' marital history prior to joining the HRS is only reported in the wave they were first interviewed for the HRS. Their then-current marital status is reported in each subsequent wave. In order to derive Gray Divorce status and Recency of Divorce, each respondent's marital status history must be cross-checked by comparing their marital history in the wave they entered the HRS with their marital statuses in every subsequent wave, as reported in the 2014 wave.

Many steps are required before a value for these new variables can be entered.

<u>Gray Divorce</u>

Steps:

1. Merge all marital history variables from every wave of HRS raw data from 1996 through 2014 into the RAND dataset.
2. Delete all respondents who were not in the RAND dataset.
3. Compare new dataset with pre-merged RAND dataset to achieve 100% match.
4. Look at every marriage in every wave.
5. If none of a respondent's marriages (up to four) ended in divorce, record 0 for Gray Divorce status.
6. If there has been a divorce, then add the number of years of the marriage to the year that the marriage began, in order to get the date of the divorce.

7. Subtract the year of birth from the year of the divorce, to calculate the respondent's age at divorce.
8. If the respondent was at least 50 years of age, then record the Gray Divorce status as 1, otherwise 0.

Recency of Divorce

Steps:

1. 1st 6 steps are the same as for the Gray Divorce variable.
2. Subtract the year of the divorce from 2014 to obtain the number of years since the divorce.
3. If greater than 1, record the number of years as the recency of divorce, otherwise 0.

Appendix E - Caregiving Variable Creation

The following questions were used to create the Caregiving Responsibilities variable:

OE063: r care for grandchild # hrs >=50

OE065: r care for grandchild min hrs >=50

OE066: r care for grandchild max hrs >50

OG199: tot hrs help friends/rel/otr 100 >=1 and <=5

OG200: tot hrs help friends/rel/otr 200 >=1 and <=5

OG201: tot hrs help friends/rel/otr 50 >1 and <=5

OFP122_1: r tot hrs parents personal needs >=50

OFP124_1: r tot hrs parents personal needs min >=50

OFP125_1: r tot hrs parents personal needs max >50

OFP122_2: r tot hrs parents personal needs >=50

OFP124_2: r tot hrs parents personal needs min >=50

OFP125_2: r tot hrs parents personal needs max >50

OFP122_3: r tot hrs parents personal needs >=50

OFP124_3: r tot hrs parents personal needs min >=50

OFP125_3: r tot hrs parents personal needs max >50

OFP142_1: r tot hrs parents personal errands >=50

OFP144_1: r tot hrs parents personal errands min >=50

OFP145_1: r tot hrs parents personal errands max >50

OFP142_2: r tot hrs parents personal errands >=50

OFP144_2: r tot hrs parents personal errands min >=50

OFP145_2: r tot hrs parents personal errands max >50

Appendix F - SPSS Output of Crosstabs of Retirement Status and Receiving Social Security Variables

Crosstabs

Notes

Output Created		10-FEB-2019 18:53:19
Comments		
Input	Data	/merged dataset.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3913
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=rassrecv BY Retired /FORMAT=AVALUE TABLES /STATISTICS=CHISQ CC PHI CORR GAMMA D BTAU CTAU /CELLS=COUNT /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.04
	Elapsed Time	00:00:00.00
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
r receives socsec * Retirement status	3913	100.0%	0	0.0%	3913	100.0%

rassrecv: r receives socsec * Retirement status Crosstabulation

Count

		Retirement status		
		Not retired	Retired	Total
Receives Social Security	0.no	1116	225	1341
	1.yes	790	1782	2572
Total		1906	2007	3913

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	972.654[a]	1	.000		
Continuity Correction[b]	970.554	1	.000		
Likelihood Ratio	1035.899	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	972.406	1	.000		
N of Valid Cases	3913				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 653.19.

b. Computed only for a 2x2 table

Directional Measures

			Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Somers' d	Symmetric	.498	.013	35.576	.000
		Receives SocSec	.473	.013	35.576	.000
		Retirement status	.525	.014	35.576	.000

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Symmetric Measures

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Nominal by Nominal	Phi	.499			.000
	Cramer's V	.499			.000
	Contingency Coefficient	.446			.000
Ordinal by Ordinal	Kendall's tau-b	.499	.013	35.576	.000
	Kendall's tau-c	.473	.013	35.576	.000
	Gamma	.836	.013	35.576	.000
	Spearman Correlation	.499	.013	35.969	.000[c]
Interval by Interval	Pearson's R	.499	.013	35.969	.000[c]
N of Valid Cases		3913			

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on normal approximation.

Note. Author's syntax calculations.
Data Source. Health and Retirement Study, University of Michigan Institute for Social Research.

Dependent variable * ragender: r gender Crosstabulation

			ragender: r gender		
			1.male	2.female	Total
Dependent variable	Not retired, not receiving Social Security	Count	515	601	1116
		% within r gender	30.8%	26.8%	28.5%
	Not retired, receiving Social Security	Count	326	464	790
		% within r gender	19.5%	20.7%	20.2%
	Retired, not receiving Social Security	Count	101	124	225
		% within r gender	6.0%	5.5%	5.8%
	Retired, receiving Social Security	Count	730	1052	1782
		% within r gender	43.7%	46.9%	45.5%
Total		Count	1672	2241	3913
		% within r gender	100.0%	100.0%	100.0%

Note. Author's syntax calculations.
Data Source. Health and Retirement Study, University of Michigan Institute for Social Research, and RAND Center for the Study of Aging.

Appendix G - SPSS Output of Multinomial Logistic Regression Tests of Predictor Variable Significance During Model Development

```
GET
  FILE='/Users/sarastolberg/Documents/KSU PhD/males_reduced RAND HRS2014
b.1946-52.sav'.
DATASET NAME DataSet8 WINDOW=FRONT.
NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any
min_test CaregivingYesNo
    self_health_rev Race_2categ OccupationClass raeduc
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL=| FSTEP=r12mstath GrayDivorce_any min_test CaregivingYesNo
self_health_rev Race_2categ
    OccupationClass raeduc
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
```

Nominal Regression

Notes		
Output Created	28-DEC-2018 13:55:47	
Comments		
Input	Data	/Users/sarastolberg/Documents/KSU PhD/males_reduced RAND HRS2014 b.1946-52.sav
	Active Dataset	DataSet8
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1687
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax	NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY	

	r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001) /MODEL=| FSTEP=r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR) /INTERCEPT=INCLUDE /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.	
Resources	Processor Time	00:00:00.27
	Elapsed Time	00:00:00.00

[DataSet8] /Users/sarastolberg/Documents/KSU PhD/males_reduced RAND HRS2014 b.1946-52.sav

Warnings
There are 1228 (62.4%) cells (i.e., dependent variable levels by subpopulations) with zero frequencies.

Case Processing Summary			

	N	Marginal Percentage	
Dependent categorical variable	Not retired, not receiving Social Security	478	32.0%
	Retired and not receiving Social Security	89	5.9%
	Not retired and receiving Social Security	294	19.7%
	Retired and receiving Social Security	635	42.4%
r12mstath:w12 r marstat-w/o part,filled	1.married	1077	72.0%
	2.married,spouse absent	12	0.8%
	4.separated	29	1.9%
	5.divorced	241	16.1%
	7.widowed	65	4.3%
	8.never married	72	4.8%
Gray Divorced respondents	Yes	74	4.9%
	Not gray divorced	1422	95.1%
min_test	1-12 years ago	41	2.7%
	13-24 years ago	166	11.1%
	25+ years ago	353	23.6%
	no divorce or no info or divorced<1 year ago	936	62.6%
CaregivingYesNo	Has caregiving responsibilities	1066	71.3%
	No caregiving responsibilities	430	28.7%
self_health_rev	fair or poor health	405	27.1%
	excellent, very good, or good health	1091	72.9%
Race as 2 categories	white	1041	69.6%
	black and other non-whites	455	30.4%
Occupation by class	white collar	680	45.5%

	service	177	11.8%
	blue collar	639	42.7%
raeduc: r education (categ)	2.GED and non-high school graduate	267	17.8%
	3.high-school graduate	346	23.1%
	4.some college	426	28.5%
	5.college and above	457	30.5%
Valid	1496	100.0%	
Missing	191		
Total	1687		
Subpopulation	492[a]		

a. The dependent variable has only one value observed in 333 (67.7%) subpopulations.

Step Summary							
			Model Fitting Criteria	Effect Selection Tests			
Model	Action	Effect(s)	-2 Log Likelihood	Chi-Square[a,b]	df	Sig.	
Step 0	0	Entered	Intercept	1866.629	.		
Step 1	1	Entered	self_health_rev	1771.933	94.696	3	.000
Step 2	2	Entered	raeduc: r education (categ)	1730.851	41.082	9	.000
Step 3	3	Entered	min_test	1713.070	17.781	9	.038

Stepwise Method: Forward Stepwise

a. The chi-square for entry is based on the likelihood ratio test.

b. The chi-square for removal is based on the likelihood ratio test.

Model Fitting Information				
Model	Model Fitting	Likelihood Ratio Tests		

	Criteria			
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1866.629			
Final	1713.070	153.559	21	.000

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	1445.857	1452	.541
Deviance	1217.967	1452	1.000

Pseudo R-Square	
Cox and Snell	.098
Nagelkerke	.107
McFadden	.042

Likelihood Ratio Tests				
	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1713.070[a]	.000	0	.
min_test	1730.851	17.781	9	.038
self_health_rev	1775.589	62.518	3	.000
raeduc: r education (categ)	1752.038	38.968	9	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.
a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Parameter Estimates									
Dependent categorical variable[a]	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound	
Not retired, not receiving Social Security	Intercept	.587	.122	22.992	1	.000			
	[min_test=1.00]	.199	.392	.257	1	.612	1.220	.565	2.631
	[min_test=2.00]	.075	.196	.146	1	.703	1.078	.734	1.584
	[min_test=3.00]	-.328	.159	4.262	1	.039	.720	.528	.984
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-1.116	.158	49.958	1	.000	.328	.240	.446
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r	-	.20	16.0	1	.000	.449	.303	.664

	education (categ)=2]	.801	0	66					
	[raeduc: r education (categ)=3]	-.864	.176	24.240	1	.000	.421	.299	.594
	[raeduc: r education (categ)=4]	-.614	.167	13.546	1	.000	.541	.390	.750
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Retired and not receiving Social Security	Intercept	-1.356	.217	39.002	1	.000			
	[min_test=1.00]	-.127	.771	.027	1	.870	.881	.194	3.993
	[min_test=2.00]	.080	.346	.053	1	.818	1.083	.550	2.132
	[min_test=3.00]	-.249	.289	.740	1	.390	.780	.443	1.374
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-.487	.269	3.276	1	.070	.614	.363	1.041
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.976	.399	5.979	1	.014	.377	.172	.824
	[raeduc: r education (categ)=3]	-.667	.320	4.354	1	.037	.513	.274	.960
	[raeduc: r education (categ)=4]	-.237	.288	.681	1	.409	.789	.449	1.386
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Not retired	Intercept	-.113	.142	.628	1	.428			

and receiving Social Security	[min_test=1.00]	.343	.426	.649	1	.420	1.410	.611	3.251
	[min_test=2.00]	-.607	.277	4.806	1	.028	.545	.317	.938
	[min_test=3.00]	.094	.167	.315	1	.575	1.098	.792	1.523
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-.857	.174	24.148	1	.000	.425	.302	.598
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.505	.223	5.139	1	.023	.603	.390	.934
	[raeduc: r education (categ)=3]	-.806	.208	14.936	1	.000	.447	.297	.672
	[raeduc: r education (categ)=4]	-.341	.190	3.214	1	.073	.711	.490	1.032
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Retired and receiving Social Security.

b. This parameter is set to zero because it is redundant.

```
NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any
min_test CaregivingYesNo
    self_health_rev Race_2categ OccupationClass raeduc
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL=| BSTEP=r12mstath GrayDivorce_any min_test CaregivingYesNo
self_health_rev Race_2categ
    OccupationClass raeduc
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
```

Nominal Regression

Notes		
Output Created	28-DEC-2018 13:56:42	
Comments		
Input	Data	/Users/sarastolberg/Documents/KSU PhD/males_reduced RAND HRS2014 b.1946-52.sav
	Active Dataset	DataSet8
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1687
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax	NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001) /MODEL=| BSTEP=r12mstath GrayDivorce_any min_test	

	CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR) /INTERCEPT=INCLUDE /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.	
Resources	Processor Time	00:00:00.45
	Elapsed Time	00:00:01.00

Warnings
There are 1228 (62.4%) cells (i.e., dependent variable levels by subpopulations) with zero frequencies.

Case Processing Summary			
	N	Marginal Percentage	
Dependent categorical variable	Not retired, not receiving Social Security	478	32.0%
	Retired and not receiving Social Security	89	5.9%
	Not retired and receiving Social Security	294	19.7%
	Retired and receiving Social Security	635	42.4%
r12mstath:w12 r marstat-w/o part,filled	1.married	1077	72.0%
	2.married,spouse absent	12	0.8%

	4.separated	29	1.9%
	5.divorced	241	16.1%
	7.widowed	65	4.3%
	8.never married	72	4.8%
Gray Divorced respondents	Yes	74	4.9%
	Not gray divorced	1422	95.1%
min_test	1-12 years ago	41	2.7%
	13-24 years ago	166	11.1%
	25+ years ago	353	23.6%
	no divorce or no info or divorced<1 year ago	936	62.6%
CaregivingYesNo	Has caregiving responsibilities	1066	71.3%
	No caregiving responsibilities	430	28.7%
self_health_rev	fair or poor health	405	27.1%
	excellent, very good, or good health	1091	72.9%
Race as 2 categories	white	1041	69.6%
	black and other non-whites	455	30.4%
Occupation by class	white collar	680	45.5%
	service	177	11.8%
	blue collar	639	42.7%
raeduc: r education (categ)	2.GED and non-high school graduate	267	17.8%
	3.high-school graduate	346	23.1%
	4.some college	426	28.5%
	5.college and above	457	30.5%
Valid	1496	100.0%	
Missing	191		
Total	1687		
Subpopulation	492[a]		

a. The dependent variable has only one value observed in 333 (67.7%) subpopulations.

Step Summary							
			Model Fitting Criteria	Effect Selection Tests			
Model	Action	Effect(s)	-2 Log Likelihood	Chi-Square[b,c]	df	Sig.	
Step 0	0	Entered	<all>[a]	1684.024	.		
Step 1	1	Removed	r12mstath:w12 r marstat-w/o part,filled	1694.324	10.300	15	.800
	2	Removed	Gray Divorced respondents	1696.253	1.930	3	.587
	3	Removed	Race as 2 categories	1699.083	2.829	3	.419
	4	Removed	Occupation by class	1706.870	7.787	6	.254
	5	Removed	CaregivingYesNo	1713.070	6.200	3	.102

Stepwise Method: Backward Stepwise

a. This model contains all effects specified or implied in the MODEL subcommand.

b. The chi-square for entry is based on the likelihood ratio test.

c. The chi-square for removal is based on the likelihood ratio test.

Model Fitting Information				
	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1866.629			
Final	1713.070	153.559	21	.000

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	1445.857	1452	.541
Deviance	1217.967	1452	1.000

Pseudo R-Square	
Cox and Snell	.098
Nagelkerke	.107
McFadden	.042

Likelihood Ratio Tests				
	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1713.070[a]	.000	0	.
min_test	1730.851	17.781	9	.038
self_health_rev	1775.589	62.518	3	.000
raeduc: r education (categ)	1752.038	38.968	9	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Parameter Estimates									
Dependent categorical variable[a]	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)		
							Lower Bound	Upper Bound	
Not retired, not receiving Social Security	Intercept	.587	.122	22.992	1	.000			
	[min_test=1.00]	.199	.392	.257	1	.612	1.220	.565	2.631
	[min_test=2.00]	.075	.196	.146	1	.703	1.078	.734	1.584
	[min_test=3.00]	-.328	.159	4.262	1	.039	.720	.528	.984
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-1.116	.158	49.958	1	.000	.328	.240	.446
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.801	.200	16.066	1	.000	.449	.303	.664
	[raeduc: r education (categ)=3]	-.864	.176	24.240	1	.000	.421	.299	.594
	[raeduc: r education	-.614	.167	13.546	1	.000	.541	.390	.750

	(categ)=4]								
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Retired and not receiving Social Security	Intercept	-1.356	.217	39.002	1	.000			
	[min_test=1.00]	-.127	.771	.027	1	.870	.881	.194	3.993
	[min_test=2.00]	.080	.346	.053	1	.818	1.083	.550	2.132
	[min_test=3.00]	-.249	.289	.740	1	.390	.780	.443	1.374
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-.487	.269	3.276	1	.070	.614	.363	1.041
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.976	.399	5.979	1	.014	.377	.172	.824
	[raeduc: r education (categ)=3]	-.667	.320	4.354	1	.037	.513	.274	.960
	[raeduc: r education (categ)=4]	-.237	.288	.681	1	.409	.789	.449	1.386
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Not retired and receiving Social Security	Intercept	-.113	.142	.628	1	.428			
	[min_test=1.00]	.343	.426	.649	1	.420	1.410	.611	3.251
	[min_test=2.00]	-.607	.277	4.806	1	.028	.545	.317	.938
	[min_test=3.00]	.094	.16	.315	1	.575	1.098	.792	1.52

			7						3
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-.857	.174	24.148	1	.000	.425	.302	.598
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.505	.223	5.139	1	.023	.603	.390	.934
	[raeduc: r education (categ)=3]	-.806	.208	14.936	1	.000	.447	.297	.672
	[raeduc: r education (categ)=4]	-.341	.190	3.214	1	.073	.711	.490	1.032
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Retired and receiving Social Security.

b. This parameter is set to zero because it is redundant.

```
NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any
min_test CaregivingYesNo
    self_health_rev Race_2categ OccupationClass raeduc
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL=| FORWARD=r12mstath GrayDivorce_any min_test CaregivingYesNo
self_health_rev Race_2categ
    OccupationClass raeduc
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
```

Nominal Regression

Notes		
Output Created	28-DEC-2018 13:57:30	
Comments		
Input	Data	/Users/sarastolberg/Documents/KSU PhD/males_reduced RAND HRS2014 b.1946-52.sav
	Active Dataset	DataSet8
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1687
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax	NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001) /MODEL=| FORWARD=r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /STEPWISE=PIN(.05)	

	POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR) /INTERCEPT=INCLUDE /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.	
Resources	Processor Time	00:00:00.24
	Elapsed Time	00:00:00.00

Warnings
There are 1228 (62.4%) cells (i.e., dependent variable levels by subpopulations) with zero frequencies.

Case Processing Summary			
	N	Marginal Percentage	
Dependent categorical variable	Not retired, not receiving Social Security	478	32.0%
	Retired and not receiving Social Security	89	5.9%
	Not retired and receiving Social Security	294	19.7%
	Retired and receiving Social Security	635	42.4%
r12mstath:w12 r marstat-w/o part,filled	1.married	1077	72.0%
	2.married,spouse absent	12	0.8%
	4.separated	29	1.9%
	5.divorced	241	16.1%
	7.widowed	65	4.3%
	8.never married	72	4.8%

Gray Divorced respondents	Yes	74	4.9%
	Not gray divorced	1422	95.1%
min_test	1-12 years ago	41	2.7%
	13-24 years ago	166	11.1%
	25+ years ago	353	23.6%
	no divorce or no info or divorced<1 year ago	936	62.6%
CaregivingYesNo	Has caregiving responsibilities	1066	71.3%
	No caregiving responsibilities	430	28.7%
self_health_rev	fair or poor health	405	27.1%
	excellent, very good, or good health	1091	72.9%
Race as 2 categories	white	1041	69.6%
	black and other non-whites	455	30.4%
Occupation by class	white collar	680	45.5%
	service	177	11.8%
	blue collar	639	42.7%
raeduc: r education (categ)	2.GED and non-high school graduate	267	17.8%
	3.high-school graduate	346	23.1%
	4.some college	426	28.5%
	5.college and above	457	30.5%
Valid	1496	100.0%	
Missing	191		
Total	1687		
Subpopulation	492[a]		

a. The dependent variable has only one value observed in 333 (67.7%) subpopulations.

Step Summary						
Model	Action	Effect(s)	Model	Effect		

			Fitting Criteria	Selection Tests		
			-2 Log Likelihood	Chi-Square[a]	df	Sig.
0	Entered	Intercept	1866.629	.		
1	Entered	self_health _rev	1771.933	94.696	3	.000
2	Entered	raeduc: r education (categ)	1730.851	41.082	9	.000
3	Entered	min_test	1713.070	17.781	9	.038

Stepwise Method: Forward Entry

a. The chi-square for entry is based on the likelihood ratio test.

Model Fitting Information				
	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1866.629			
Final	1713.070	153.559	21	.000

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	1445.857	1452	.541
Deviance	1217.967	1452	1.000

Pseudo R-	

Square	
Cox and Snell	.098
Nagelkerke	.107
McFadden	.042

Likelihood Ratio Tests				
	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1713.070[a]	.000	0	.
min_test	1730.851	17.781	9	.038
self_health_rev	1775.589	62.518	3	.000
raeduc: r education (categ)	1752.038	38.968	9	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Parameter Estimates									
Dependent categorical variable[a]	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for		

							Exp(B)		
							Lower Bound	Upper Bound	
Not retired, not receiving Social Security	Intercept	.587	.122	22.992	1	.000			
	[min_test=1.00]	.199	.392	.257	1	.612	1.220	.565	2.631
	[min_test=2.00]	.075	.196	.146	1	.703	1.078	.734	1.584
	[min_test=3.00]	-.328	.159	4.262	1	.039	.720	.528	.984
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-1.116	.158	49.958	1	.000	.328	.240	.446
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.801	.200	16.066	1	.000	.449	.303	.664
	[raeduc: r education (categ)=3]	-.864	.176	24.240	1	.000	.421	.299	.594
	[raeduc: r education (categ)=4]	-.614	.167	13.546	1	.000	.541	.390	.750
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Retired and not receiving Social Security	Intercept	-1.356	.217	39.002	1	.000			
	[min_test=1.00]	-.127	.771	.027	1	.870	.881	.194	3.993
	[min_test=2.00]	.080	.34	.053	1	.818	1.083	.550	2.13

			6						2
	[min_test=3.00]	-.249	.289	.740	1	.390	.780	.443	1.374
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-.487	.269	3.276	1	.070	.614	.363	1.041
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.976	.399	5.979	1	.014	.377	.172	.824
	[raeduc: r education (categ)=3]	-.667	.320	4.354	1	.037	.513	.274	.960
	[raeduc: r education (categ)=4]	-.237	.288	.681	1	.409	.789	.449	1.386
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Not retired and receiving Social Security	Intercept	-.113	.142	.628	1	.428			
	[min_test=1.00]	.343	.426	.649	1	.420	1.410	.611	3.251
	[min_test=2.00]	-.607	.277	4.806	1	.028	.545	.317	.938
	[min_test=3.00]	.094	.167	.315	1	.575	1.098	.792	1.523
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-.857	.174	24.148	1	.000	.425	.302	.598
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.505	.223	5.139	1	.023	.603	.390	.934
	[raeduc: r	-	.20	14.9	1	.000	.447	.297	.672

	education (categ)=3]	.806	8	36					
	[raeduc: r education (categ)=4]	-.341	.190	3.214	1	.073	.711	.490	1.032
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Retired and receiving Social Security.

b. This parameter is set to zero because it is redundant.

```
NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any
min_test CaregivingYesNo
    self_health_rev Race_2categ OccupationClass raeduc
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL=r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev
Race_2categ
    OccupationClass raeduc
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
```

Nominal Regression

Notes		
Output Created	28-DEC-2018 13:58:31	
Comments		
Input	Data	/Users/sarastolberg/Documents/KSU PhD/males_reduced RAND HRS2014 b.1946-52.sav
	Active Dataset	DataSet8
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1687
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax	NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001) /MODEL=r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR) /INTERCEPT=INCLUDE /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.	
Resources	Processor Time	00:00:00.29
	Elapsed Time	00:00:00.00

Warnings
There are 1228 (62.4%) cells (i.e., dependent variable levels by subpopulations) with zero frequencies.
Unexpected singularities in the Hessian matrix are encountered. This

indicates that either some predictor variables should be excluded or some categories should be merged.
The NOMREG procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

Case Processing Summary			
	N	Marginal Percentage	
Dependent categorical variable	Not retired, not receiving Social Security	478	32.0%
	Retired and not receiving Social Security	89	5.9%
	Not retired and receiving Social Security	294	19.7%
	Retired and receiving Social Security	635	42.4%
r12mstath:w12 r marstat-w/o part,filled	1.married	1077	72.0%
	2.married,spouse absent	12	0.8%
	4.separated	29	1.9%
	5.divorced	241	16.1%
	7.widowed	65	4.3%
	8.never married	72	4.8%
Gray Divorced respondents	Yes	74	4.9%
	Not gray divorced	1422	95.1%
min_test	1-12 years ago	41	2.7%
	13-24 years ago	166	11.1%
	25+ years ago	353	23.6%
	no divorce or no info or divorced<1 year ago	936	62.6%
CaregivingYesNo	Has caregiving responsibilities	1066	71.3%

	No caregiving responsibilities	430	28.7%
self_health_rev	fair or poor health	405	27.1%
	excellent, very good, or good health	1091	72.9%
Race as 2 categories	white	1041	69.6%
	black and other non-whites	455	30.4%
Occupation by class	white collar	680	45.5%
	service	177	11.8%
	blue collar	639	42.7%
raeduc: r education (categ)	2.GED and non-high school graduate	267	17.8%
	3.high-school graduate	346	23.1%
	4.some college	426	28.5%
	5.college and above	457	30.5%
Valid	1496	100.0%	
Missing	191		
Total	1687		
Subpopulation	492[a]		

a. The dependent variable has only one value observed in 333 (67.7%) subpopulations.

Model Fitting Information				
	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1866.629			
Final	1684.024	182.605	51	.000

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	1409.043	1422	.591
Deviance	1188.920	1422	1.000

Pseudo R-Square	
Cox and Snell	.115
Nagelkerke	.126
McFadden	.050

Likelihood Ratio Tests				
	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1684.024[a]	.000	0	.
r12mstath:w12r marstat-w/o part,filled	1694.324	10.300	15	.800
Gray Divorced respondents	1685.864	1.840	3	.606
min_test	1703.981	19.957	9	.018
CaregivingYesNo	1689.586	5.563	3	.135
self_health_rev	1737.744	53.720	3	.000
Race as 2 categories	1686.747	2.723	3	.436
Occupation by class	1691.629	7.605	6	.268
raeduc: r	1705.181	21.158	9	.012

education (categ)				

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Parameter Estimates

Dependent categorical variable[a]	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound	
Not retired, not receiving Social Security	Intercept	.330	.358	.853	1	.356			
	[r12mstath:w12 rmarstat-w/o part,filled=1]	-.156	.300	.269	1	.604	.856	.475	1.542
	[r12mstath:w12 rmarstat-w/o part,filled=2]	.338	.705	.229	1	.632	1.401	.352	5.577
	[r12mstath:w12 rmarstat-w/o part,filled=4]	-.242	.537	.204	1	.652	.785	.274	2.248
	[r12mstath:w12 rmarstat-w/o	-.491	.350	1.964	1	.161	.612	.308	1.216

	part,filled=5]								
	[r12mstath:w12 r marstat-w/o part,filled=7]	-.558	.440	1.611	1	.204	.572	.242	1.355
	[r12mstath:w12 r marstat-w/o part,filled=8]	0[b]	.	.	0	.	.	.	.
	[Gray Divorced respondents =1.00]	-.580	.454	1.630	1	.202	.560	.230	1.364
	[Gray Divorced respondents =2.00]	0[b]	.	.	0	.	.	.	.
	[min_test=1.00]	.947	.607	2.439	1	.118	2.579	.785	8.467
	[min_test=2.00]	.282	.220	1.654	1	.198	1.326	.862	2.040
	[min_test=3.00]	-.261	.165	2.515	1	.113	.770	.558	1.064
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[CaregivingYesNo =1.00]	.310	.148	4.398	1	.036	1.364	1.021	1.822
	[CaregivingYesNo =2.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev= 1.00]	-1.068	.161	44.114	1	.000	.344	.251	.471
	[self_health_rev= 2.00]	0[b]	.	.	0	.	.	.	.
	[Race as 2 categories=1.00]	-.011	.146	.006	1	.939	.989	.743	1.316
	[Race as 2 categories=2.00]	0[b]	.	.	0	.	.	.	.
	[Occupation by class=1.00]	.209	.162	1.679	1	.195	1.233	.898	1.693
	[Occupation by class=2.00]	.290	.209	1.932	1	.165	1.336	.888	2.011
	[Occupation by class=3.00]	0[b]	.	.	0	.	.	.	.

	[raeduc: r education (categ)=2]	-.644	.231	7.748	1	.005	.525	.334	.826
	[raeduc: r education (categ)=3]	-.728	.199	13.342	1	.000	.483	.326	.713
	[raeduc: r education (categ)=4]	-.536	.179	9.019	1	.003	.585	.412	.830
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Retired and not receiving Social Security	Intercept	-1.895	.663	8.154	1	.004			
	[r12mstath:w12 r marstat-w/o part,filled=1]	-.069	.564	.015	1	.903	.933	.309	2.818
	[r12mstath:w12 r marstat-w/o part,filled=2]	-18.936	.000	.	1	.	5.971E-9	5.971E-9	5.971E-9
	[r12mstath:w12 r marstat-w/o part,filled=4]	-.731	1.180	.385	1	.535	.481	.048	4.857
	[r12mstath:w12 r marstat-w/o part,filled=5]	.023	.636	.001	1	.971	1.023	.294	3.562
	[r12mstath:w12 r marstat-w/o part,filled=7]	.374	.706	.280	1	.596	1.453	.364	5.798
	[r12mstath:w12 r marstat-w/o part,filled=8]	0[b]	.	.	0	.	.	.	.
	[Gray Divorced respondents =1.00]	-.490	.800	.375	1	.541	.613	.128	2.940
	[Gray Divorced respondents =2.00]	0[b]	.	.	0	.	.	.	.

	[min_test=1.00]	.321	1.125	.082	1	.775	1.379	.152	12.493
	[min_test=2.00]	.139	.389	.128	1	.721	1.149	.536	2.464
	[min_test=3.00]	-.226	.300	.568	1	.451	.797	.443	1.437
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[CaregivingYesNo=1.00]	.297	.272	1.197	1	.274	1.346	.790	2.293
	[CaregivingYesNo=2.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=1.00]	-.458	.275	2.766	1	.096	.633	.369	1.085
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[Race as 2 categories=1.00]	-.241	.255	.895	1	.344	.786	.477	1.295
	[Race as 2 categories=2.00]	0[b]	.	.	0	.	.	.	.
	[Occupation by class=1.00]	.630	.289	4.747	1	.029	1.877	1.065	3.306
	[Occupation by class=2.00]	.176	.408	.186	1	.666	1.192	.536	2.652
	[Occupation by class=3.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.591	.450	1.725	1	.189	.554	.229	1.338
	[raeduc: r education (categ)=3]	-.327	.358	.834	1	.361	.721	.357	1.455
	[raeduc: r education (categ)=4]	-.054	.305	.032	1	.859	.947	.521	1.722
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Not retired	Intercept	-.593	.422	1.975	1	.160			

and receiving Social Security	[r12mstath:w12 rmarstat-w/o part,filled=1]	-.070	.357	.038	1	.845	.932	.463	1.878
	[r12mstath:w12 rmarstat-w/o part,filled=2]	-.703	1.145	.377	1	.539	.495	.053	4.669
	[r12mstath:w12 rmarstat-w/o part,filled=4]	-.406	.675	.361	1	.548	.667	.178	2.501
	[r12mstath:w12 rmarstat-w/o part,filled=5]	-.067	.406	.027	1	.869	.935	.422	2.072
	[r12mstath:w12 rmarstat-w/o part,filled=7]	-.136	.488	.078	1	.780	.872	.335	2.272
	[r12mstath:w12 rmarstat-w/o part,filled=8]	0[b]	.	.	0	.	.	.	.
	[Gray Divorced respondents =1.00]	-.151	.553	.074	1	.785	.860	.291	2.544
	[Gray Divorced respondents =2.00]	0[b]	.	.	0	.	.	.	.
	[min_test=1.00]	.498	.702	.503	1	.478	1.645	.416	6.512
	[min_test=2.00]	-.574	.303	3.600	1	.058	.563	.311	1.019
	[min_test=3.00]	.116	.174	.443	1	.506	1.123	.798	1.581
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[CaregivingYesNo =1.00]	.269	.168	2.561	1	.110	1.308	.941	1.819
	[CaregivingYesNo =2.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev= 1.00]	-.787	.177	19.657	1	.000	.455	.321	.645

	[self_health_rev= 2.00]	0[b]	.	.	0	.	.	.	.
	[Race as 2 categories=1.00]	.185	.168	1.216	1	.270	1.204	.866	1.673
	[Race as 2 categories=2.00]	0[b]	.	.	0	.	.	.	.
	[Occupation by class=1.00]	.213	.183	1.358	1	.244	1.237	.865	1.769
	[Occupation by class=2.00]	-.013	.248	.003	1	.959	.987	.607	1.607
	[Occupation by class=3.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.248	.259	.917	1	.338	.780	.469	1.297
	[raeduc: r education (categ)=3]	-.636	.234	7.408	1	.006	.529	.335	.837
	[raeduc: r education (categ)=4]	-.224	.203	1.224	1	.269	.799	.537	1.189
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Retired and receiving Social Security.

b. This parameter is set to zero because it is redundant.

```
NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any
min_test CaregivingYesNo
    self_health_rev Race_2categ OccupationClass raeduc
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
```

Nominal Regression

Notes		
Output Created	28-DEC-2018 13:59:28	
Comments		
Input	Data	/Users/sarastolberg/Documents/KSU PhD/males_reduced RAND HRS2014 b.1946-52.sav
	Active Dataset	DataSet8
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1687
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax	NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any min_test CaregivingYesNo self_health_rev Race_2categ OccupationClass raeduc /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001) /MODEL /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)	

	REMOVALMETHOD(LR) /INTERCEPT=INCLUDE /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.	
Resources	Processor Time	00:00:00.29
	Elapsed Time	00:00:01.00

Warnings
There are 1228 (62.4%) cells (i.e., dependent variable levels by subpopulations) with zero frequencies.
Unexpected singularities in the Hessian matrix are encountered. This indicates that either some predictor variables should be excluded or some categories should be merged.
The NOMREG procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

Case Processing Summary			
	N	Marginal Percentage	
Dependent categorical variable	Not retired, not receiving Social Security	478	32.0%
	Retired and not receiving Social Security	89	5.9%
	Not retired and receiving Social Security	294	19.7%
	Retired and receiving Social Security	635	42.4%
r12mstath:w12 r marstat-w/o part,filled	1.married	1077	72.0%
	2.married,spouse absent	12	0.8%
	4.separated	29	1.9%

	5.divorced	241	16.1%
	7.widowed	65	4.3%
	8.never married	72	4.8%
Gray Divorced respondents	Yes	74	4.9%
	Not gray divorced	1422	95.1%
min_test	1-12 years ago	41	2.7%
	13-24 years ago	166	11.1%
	25+ years ago	353	23.6%
	no divorce or no info or divorced<1 year ago	936	62.6%
CaregivingYesNo	Has caregiving responsibilities	1066	71.3%
	No caregiving responsibilities	430	28.7%
self_health_rev	fair or poor health	405	27.1%
	excellent, very good, or good health	1091	72.9%
Race as 2 categories	white	1041	69.6%
	black and other non-whites	455	30.4%
Occupation by class	white collar	680	45.5%
	service	177	11.8%
	blue collar	639	42.7%
raeduc: r education (categ)	2.GED and non-high school graduate	267	17.8%
	3.high-school graduate	346	23.1%
	4.some college	426	28.5%
	5.college and above	457	30.5%
Valid	1496	100.0%	
Missing	191		
Total	1687		
Subpopulation	492[a]		

a. The dependent variable has only one value observed in 333 (67.7%) subpopulations.

Model Fitting Information				
	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1866.629			
Final	1684.024	182.605	51	.000

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	1409.043	1422	.591
Deviance	1188.920	1422	1.000

Pseudo R-Square	
Cox and Snell	.115
Nagelkerke	.126
McFadden	.050

Likelihood Ratio Tests				
	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1684.024[a]	.000	0	.
r12mstath:w12	1694.324	10.300	15	.800

r marstat-w/o part,filled				
Gray Divorced respondents	1685.864	1.840	3	.606
min_test	1703.981	19.957	9	.018
CaregivingYes No	1689.586	5.563	3	.135
self_health_rev	1737.744	53.720	3	.000
Race as 2 categories	1686.747	2.723	3	.436
Occupation by class	1691.629	7.605	6	.268
raeduc: r education (categ)	1705.181	21.158	9	.012

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Parameter Estimates									
Dependent categorical variable[a]	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound	
Not	Intercept	.330	.35	.853	1	.356			

retired, not receiving Social Security			8						
	[r12mstath:w12 rmarstat-w/o part,filled=1]	-.156	.300	.269	1	.604	.856	.475	1.542
	[r12mstath:w12 rmarstat-w/o part,filled=2]	.338	.705	.229	1	.632	1.401	.352	5.577
	[r12mstath:w12 rmarstat-w/o part,filled=4]	-.242	.537	.204	1	.652	.785	.274	2.248
	[r12mstath:w12 rmarstat-w/o part,filled=5]	-.491	.350	1.964	1	.161	.612	.308	1.216
	[r12mstath:w12 rmarstat-w/o part,filled=7]	-.558	.440	1.611	1	.204	.572	.242	1.355
	[r12mstath:w12 rmarstat-w/o part,filled=8]	0[b]	.	.	0	.	.	.	.
	[Gray Divorced respondents =1.00]	-.580	.454	1.630	1	.202	.560	.230	1.364
	[Gray Divorced respondents =2.00]	0[b]	.	.	0	.	.	.	.
	[min_test=1.00]	.947	.607	2.439	1	.118	2.579	.785	8.467
	[min_test=2.00]	.282	.220	1.654	1	.198	1.326	.862	2.040
	[min_test=3.00]	-.261	.165	2.515	1	.113	.770	.558	1.064
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[CaregivingYesNo =1.00]	.310	.148	4.398	1	.036	1.364	1.021	1.822
	[CaregivingYesNo =2.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev=	-	.16	44.1	1	.000	.344	.251	.471

	1.00]	1.068	1	14					
	[self_health_rev=2.00]	0[b]	.	.	0	.	.	.	.
	[Race as 2 categories=1.00]	-.011	.146	.006	1	.939	.989	.743	1.316
	[Race as 2 categories=2.00]	0[b]	.	.	0	.	.	.	.
	[Occupation by class=1.00]	.209	.162	1.679	1	.195	1.233	.898	1.693
	[Occupation by class=2.00]	.290	.209	1.932	1	.165	1.336	.888	2.011
	[Occupation by class=3.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.644	.231	7.748	1	.005	.525	.334	.826
	[raeduc: r education (categ)=3]	-.728	.199	13.342	1	.000	.483	.326	.713
	[raeduc: r education (categ)=4]	-.536	.179	9.019	1	.003	.585	.412	.830
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Retired and not receiving Social Security	Intercept	-1.895	.663	8.154	1	.004			
	[r12mstath:w12 r marstat-w/o part,filled=1]	-.069	.564	.015	1	.903	.933	.309	2.818
	[r12mstath:w12 r marstat-w/o part,filled=2]	-18.936	.000	.	1	.	5.971E-9	5.971E-9	5.971E-9
	[r12mstath:w12 r marstat-w/o part,filled=4]	-.731	1.180	.385	1	.535	.481	.048	4.857
	[r12mstath:w12 r	.023	.63	.001	1	.971	1.023	.294	3.562

	marstat-w/o part,filled=5]		6						
	[r12mstath:w12 r marstat-w/o part,filled=7]	.374	.706	.280	1	.596	1.453	.364	5.798
	[r12mstath:w12 r marstat-w/o part,filled=8]	0[b]	.	.	0	.	.	.	.
	[Gray Divorced respondents =1.00]	-.490	.800	.375	1	.541	.613	.128	2.940
	[Gray Divorced respondents =2.00]	0[b]	.	.	0	.	.	.	.
	[min_test=1.00]	.321	1.125	.082	1	.775	1.379	.152	12.493
	[min_test=2.00]	.139	.389	.128	1	.721	1.149	.536	2.464
	[min_test=3.00]	-.226	.300	.568	1	.451	.797	.443	1.437
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[CaregivingYesNo =1.00]	.297	.272	1.197	1	.274	1.346	.790	2.293
	[CaregivingYesNo =2.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev= 1.00]	-.458	.275	2.766	1	.096	.633	.369	1.085
	[self_health_rev= 2.00]	0[b]	.	.	0	.	.	.	.
	[Race as 2 categories=1.00]	-.241	.255	.895	1	.344	.786	.477	1.295
	[Race as 2 categories=2.00]	0[b]	.	.	0	.	.	.	.
	[Occupation by class=1.00]	.630	.289	4.747	1	.029	1.877	1.065	3.306
	[Occupation by class=2.00]	.176	.408	.186	1	.666	1.192	.536	2.652
	[Occupation by class=3.00]	0[b]	.	.	0	.	.	.	.

	[raeduc: r education (categ)=2]	-.591	.450	1.725	1	.189	.554	.229	1.338
	[raeduc: r education (categ)=3]	-.327	.358	.834	1	.361	.721	.357	1.455
	[raeduc: r education (categ)=4]	-.054	.305	.032	1	.859	.947	.521	1.722
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.
Not retired and receiving Social Security	Intercept	-.593	.422	1.975	1	.160			
	[r12mstath:w12 r marstat-w/o part,filled=1]	-.070	.357	.038	1	.845	.932	.463	1.878
	[r12mstath:w12 r marstat-w/o part,filled=2]	-.703	1.145	.377	1	.539	.495	.053	4.669
	[r12mstath:w12 r marstat-w/o part,filled=4]	-.406	.675	.361	1	.548	.667	.178	2.501
	[r12mstath:w12 r marstat-w/o part,filled=5]	-.067	.406	.027	1	.869	.935	.422	2.072
	[r12mstath:w12 r marstat-w/o part,filled=7]	-.136	.488	.078	1	.780	.872	.335	2.272
	[r12mstath:w12 r marstat-w/o part,filled=8]	0[b]	.	.	0	.	.	.	.
	[Gray Divorced respondents =1.00]	-.151	.553	.074	1	.785	.860	.291	2.544
	[Gray Divorced respondents	0[b]	.	.	0	.	.	.	.

	=2.00]								
	[min_test=1.00]	.498	.702	.503	1	.478	1.645	.416	6.512
	[min_test=2.00]	-.574	.303	3.600	1	.058	.563	.311	1.019
	[min_test=3.00]	.116	.174	.443	1	.506	1.123	.798	1.581
	[min_test=4.00]	0[b]	.	.	0	.	.	.	.
	[CaregivingYesNo =1.00]	.269	.168	2.561	1	.110	1.308	.941	1.819
	[CaregivingYesNo =2.00]	0[b]	.	.	0	.	.	.	.
	[self_health_rev= 1.00]	-.787	.177	19.657	1	.000	.455	.321	.645
	[self_health_rev= 2.00]	0[b]	.	.	0	.	.	.	.
	[Race as 2 categories=1.00]	.185	.168	1.216	1	.270	1.204	.866	1.673
	[Race as 2 categories=2.00]	0[b]	.	.	0	.	.	.	.
	[Occupation by class=1.00]	.213	.183	1.358	1	.244	1.237	.865	1.769
	[Occupation by class=2.00]	-.013	.248	.003	1	.959	.987	.607	1.607
	[Occupation by class=3.00]	0[b]	.	.	0	.	.	.	.
	[raeduc: r education (categ)=2]	-.248	.259	.917	1	.338	.780	.469	1.297
	[raeduc: r education (categ)=3]	-.636	.234	7.408	1	.006	.529	.335	.837
	[raeduc: r education (categ)=4]	-.224	.203	1.224	1	.269	.799	.537	1.189
	[raeduc: r education (categ)=5]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Retired and receiving Social Security.
b. This parameter is set to zero because it is redundant.

```
NOMREG DepVarCat (BASE=LAST ORDER=ASCENDING) BY r12mstath GrayDivorce_any
min_test CaregivingYesNo
    self_health_rev Race_2categ OccupationClass raeduc
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /FULLFACTORIAL
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
```

Appendix H - SPSS Output Gray Divorce by Divorce Recency

Crosstabs Analysis

Divorce Recency all marriages * Gray Divorced in any wave Crosstabulation

Count

		Gray Divorced in any wave		
	Years	Not gray divorced	Gray divorced	Total
Never divorced	N/A	2,469	0	2,469
Divorce Recency all marriages	1.00	0	2	2
	2.00	0	1	1
	3.00	0	1	1
	4.00	0	3	3
	5.00	0	5	5
	6.00	0	5	5
	7.00	0	9	9
	8.00	0	12	12
	9.00	0	13	13
	10.00	0	18	18
	11.00	0	22	22
	12.00	0	29	29
	13.00	7	25	32
	14.00	17	19	36
	15.00	24	6	30
	16.00	18	8	26
	17.00	25	1	26
	18.00	30	0	30
	19.00	47	0	47
	20.00	43	0	43
	21.00	25	0	25
	22.00	46	0	46
	23.00	50	0	50
	24.00	32	0	32
	25.00	39	0	39
	26.00	44	0	44
	27.00	45	0	45

28.00	52	0	52
29.00	45	0	45
30.00	54	0	54
31.00	48	0	48
32.00	58	0	58
33.00	61	0	61
34.00	51	0	51
35.00	50	0	50
36.00	37	0	37
37.00	47	0	47
38.00	54	0	54
39.00	47	0	47
40.00	37	0	37
41.00	42	0	42
42.00	35	0	35
43.00	31	0	31
44.00	23	0	23
45.00	9	0	9
46.00	8	0	8
47.00	2	0	2
48.00	5	0	5
49.00	1	0	1
56.00	1	0	1
Total	3,913	179	3,913

Note. Crosstabs analysis of the number of years in the past that a divorce occurred by the number of years in the past that a gray divorce occurred.
Data Source. Health and Retirement Study, University of Michigan Institute for Social Research.

Appendix I - Codebooks from RAND and the Health and Retirement Survey for 1996 – 2014 for Select Variables

The RAND HRS Codebook was the source for the race, current marital status, education, self-reported health, receipt of Social Security, and retirement status variables.

Race:

.M=Oth missing
1.White/Caucasian
2.Black/African American
3.Other

Current marital status:

.M=Oth missing
1.Married
2.Married,spouse absent
4.Separated
5.Divorced
6.Separated/divorced
7.Widowed
8.Never married
9.Unknown marital status

Education:

.M=Oth missing
1.Lt High-school
2.GED
3.High-school graduate
4.Some college
5.College and above

Self-reported health:

.D=DK/NA
.M=Oth missing
.R=RF
1.Excellent

2.Very good
3.Good
4.Fair
5.Poor

Receives Social Security:

0.No
1.Yes

Retirement status

1.Works FT
2.Works PT
3.Unemployed
4.Partly retired
5.Retired
6.Disabled
7.Not in LbrF

The caregiving responsibilities, gray divorce, and divorce recency variables were constructed from variables in the 1996 – 2014 waves of the HRS. The caregiving responsibilities codebook entries are found in Appendix E.
The marital history variables used to create the gray divorce and divorce recency variables are:

1996:

A22. In what year did you (first) marry?
.....
1900-1996. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A22b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)

A22c. About how many years did that marriage last?
.....
1-96. Actual value
98. DK (don't know); NA (not ascertained)

99. RF (refused)

A23. In what year did you marry most recently?
.....
1900-1996. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A23b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)

A23c. About how many years did that marriage last?
.....
1-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

1998:

A45. In what year did your (first) marriage begin?
.....
1900-1999. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A45b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A45c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A46. In what year did your second marriage begin?
.....

1900-1999. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A46b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A46c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A47. In what year did your third marriage begin?
.....
1900-1999. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A47b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A47c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A48. IF Q37 IS (1)
In what year did your current marriage begin?
ELSE
In what year did you marry most recently?
END
.....
1900-1999. Actual value
9998. DK (don't know); NA (not ascertained)

9999. RF (refused)
A48b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A48c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

2000:

A45. In what year did your (first) marriage begin?
.....
1900-2001. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A45b. Did that marriage end in divorce or were you widowed?
.....
3. Seperated [sic]
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A45c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A46. In what year did your second marriage begin?
.....
1900-2001. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A46b. Did that marriage end in divorce or were you widowed?

.....
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A46c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A47. In what year did your third marriage begin?
.....
1900-2001. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A47b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A47c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A48. IF Q37 IS (1)
In what year did your current marriage begin?
ELSE
In what year did you marry most recently?
END
.....
131 1900-2001. Actual value
3 9998. DK (don't know); NA (not ascertained)
1 9999. RF (refused)

A48b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED

5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A48c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

2002:

A45. In what year did your (first) marriage begin?
.....
1900-2001. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A45b. Did that marriage end in divorce or were you widowed?
.....
3. Seperated
4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A45c. About how many years did that marriage last?
.....
0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A46. In what year did your second marriage begin?
.....
1900-2001. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A46b. Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER

8. DK (don't know); NA (not ascertained)
9. RF (refused)

A46c. About how many years did that marriage last?

.....

0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A47. In what year did your third marriage begin?

.....

1900-2001. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A47b. Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A47c. About how many years did that marriage last?

.....

0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

A48. IF Q37 IS (1)
    In what year did your current marriage begin?
ELSE
    In what year did you marry most recently?
END

.....

1900-2001. Actual value
9998. DK (don't know); NA (not ascertained)
9999. RF (refused)

A48b. Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER
8. DK (don't know); NA (not ascertained)
9. RF (refused)

A48c. About how many years did that marriage last?

.....

0-96. Actual value
98. DK (don't know); NA (not ascertained)
99. RF (refused)

2002:

In what year did your (current/first/second/third) marriage begin?

N	Min	Max	Mean	SD	Miss
163	1919	2002	1962.31	12.41	17990

9998. DK (Don't Know)
9999. RF (Refused)

HB068_1 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know)
9. RF (Refused)

HB070_1 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
165	1	60	21.27	15.91	17990

98. DK (Don't Know)
99. RF (Refused)

HB066_2 In what year did your (current/first/second/third) marriage begin?

N	Min	Max	Mean	SD	Miss
63	1949	2002	1979.29	11.91	18099

9998. DK (Don't Know)
9999. RF (Refused)

HB068_2 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know)
9. RF (Refused)

HB070_2 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
64	0	50	10.58	9.87	18099

98. DK (Don't Know)
99. RF (Refused)

HB066_3 In what year did your (current/first/second/third) marriage begin?

N	Min	Max	Mean	SD	Miss
19	1968	2001	1989.05	10.05	18144

9998. DK (Don't Know)
9999. RF (Refused)

HB068_3 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know)
9. RF (Refused)

HB070_3 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
22	0	28	4.50	6.19	18144

98. DK (Don't Know)
99. RF (Refused)

2004:

JB066_1 In what year did your (current\most recent\first\second\third) marriage begin?

.....

1919-2004. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

JB068_1 Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

JB070_1 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
1630	0	63	10.39	8.98	18468

95. Less than 1 year
98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

JB066_2 In what year did your (current\most recent\first\second\third) marriage begin?
.....
1919-2004. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

JB068_2 Did that marriage end in divorce or were you widowed?
.....
4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

JB070_2 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
525	0	54	8.18	7.02	19588

95. Less than 1 year
98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

JB066_3 In what year did your (current\most recent\first\second\third) marriage begin?

.....

1956-2004. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

JB068_3 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

JB070_3 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
119	0	27	6.18	6.18	20006

95. Less than 1 year
98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

JB066_4 MARRIAGE YEAR BEGAN -4 In what year did your (current\most recent\first\second\third) marriage begin?

.....

1975-2004. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

JB068_4 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

JB070_4 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
17	0	23	8.59	6.69	20112

95. Less than 1 year
98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

2006:

KB066_1 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1938-2003. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

KB068_1 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

KB070_1 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
156	0	62	19.93	16.49	18310

---

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

KB066_2 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1938-2006. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

KB068_2 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

KB070_2 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
72	0	39	10.38	9.84	18394

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

KB066_3 In what year did your [current/most recent/first/second/third] marriage begin?

1965-2006. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

KB068_3 Did that marriage end in divorce or were you widowed?

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

KB070_3 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
15	0	25	7.47	7.24	18453

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

KB066_4 In what year did your [current/most recent/first/second/third] marriage begin?

1992-2006. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

KB068_4 Did that marriage end in divorce or were you widowed?

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

KB070_4 About how many years did that marriage last?

2-16. Actual Value
98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

2008:

LB066_1 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1941-2008. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

LB068_1 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

LB070_1 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
110	0	60	19.15	15.49	17103

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

LB066_2 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1958-2008. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

LB068_2 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
RF (Refused)

LB070_2 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss

44	0	33	10.05	8.18	17167

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

LB066_3 In what year did your [current/most recent/first/second/third] marriage begin?

1965-2008. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

LB068_3 Did that marriage end in divorce or were you widowed?

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

LB070_3 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
21	1	41	8.86	10.23	17195

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

LB066_4 In what year did your [current/most recent/first/second/third] marriage begin?

1977-2008. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

LB068_4 Did that marriage end in divorce or were you widowed?

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

LB070_4 About how many years did that marriage last?

5-30. Actual Value
98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

2010:

MB066_1 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1919-2011. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

MB068_1 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

MB070_1 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
3165	0	60	10.27	8.80	18826

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

MB066_2 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1919-2011. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

MB068_2 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

MB070_2 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
938	0	35	7.75	6.73	21076

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

MB066_3 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1968-2011. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

MB068_3 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

MB070_3 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
193	0	32	6.33	5.73	21832

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

MB066_4 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1980-2011. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

MB068_4 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

MB070_4 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
26	0	25	5.46	6.19	22008

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

2012:

NB066_1 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1943-2008. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

NB068_1 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

NB070_1 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
278	0	62	12.70	11.39	20268

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

NB066_2 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1966-2012. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

NB068_2 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

NB070_2 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
93	0	40	9.24	8.71	20455

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

NB066_3 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1968-2012. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

NB068_3 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

NB070_3 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
27	0	30	7.59	7.32	20524

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

NB066_4 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1993-2012. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

NB068_4 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

NB070_4 About how many years did that marriage last?

.....

0-10. Actual Value
98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

2014:

OB066_1 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1943-2008. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

OB068_1 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

OB070_1 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
278	0	62	12.70	11.39	20268

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

OB066_2 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1966-2012. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

OB068_2 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

OB070_2 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
93	0	40	9.24	8.71	20455

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

OB066_3 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1968-2012. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

OB068_3 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

OB070_3 About how many years did that marriage last?

N	Min	Max	Mean	SD	Miss
27	0	30	7.59	7.32	20524

98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

OB066_4 In what year did your [current/most recent/first/second/third] marriage begin?

.....

1993-2012. Actual Value
9998. DK (Don't Know); NA (Not Ascertained)
9999. RF (Refused)

OB068_4 Did that marriage end in divorce or were you widowed?

.....

4. DIVORCED
5. WIDOWED
7. OTHER (SPECIFY)
8. DK (Don't Know); NA (Not Ascertained)
9. RF (Refused)

OB070_4 About how many years did that marriage last?

.....

0-10. Actual Value
98. DK (Don't Know); NA (Not Ascertained)
99. RF (Refused)

Appendix J - SPSS Output for Variable Creation, Descriptives, and Regressions

```
FREQUENCIES VARIABLES=r12mstath ragender raracem raeduc r12shlt r12lbrf
  /ORDER=ANALYSIS.


SORT CASES BY raracem(A).
SORT CASES BY raeduc(A).
SORT CASES BY r12shlt(A).
FREQUENCIES VARIABLES=ragender
  /FORMAT=NOTABLE
  /ORDER=ANALYSIS.


GET
  FILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
SORT CASES BY raracem(A).
SORT CASES BY raeduc(A).
SORT CASES BY r12shlt(A).
FREQUENCIES VARIABLES=ragender
  /ORDER=ANALYSIS.

.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
RECODE raracem (1=1) (2 thru 3=2) INTO Race.
VARIABLE LABELS  Race 'Race 2 category'.
EXECUTE.
FREQUENCIES VARIABLES=Race
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
```

```
  /COMPRESSED.
RECODE r12mstath (7=2) (8=3) (4 thru 5=1) (1 thru 2=4) INTO Marital_status.
VARIABLE LABELS  Marital_status 'Current marital status'.
EXECUTE.
FREQUENCIES VARIABLES=Marital_status
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
RECODE raeduc (3=2) (4=3) (5=4) (1 thru 2=1) INTO Education.
VARIABLE LABELS  Education 'Education'.
EXECUTE.
FREQUENCIES VARIABLES=Education
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
RECODE r12shlt (4 thru 5=1) (1 thru 3=2) INTO Self_reported_health.
VARIABLE LABELS  Self_reported_health 'Self-reported health 2 categories'.
EXECUTE.
FREQUENCIES VARIABLES=Self_reported_health
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
RECODE r12lbrf (5=2) (1 thru 4=1) (6 thru 7=1) INTO Retired.
VARIABLE LABELS  Retired 'Retirement status'.
EXECUTE.
FREQUENCIES VARIABLES=Retired
  /ORDER=ANALYSIS.
```

```
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
IF  (rassrecv=0 and Retired=1) Dependent_Variable=1.
VARIABLE LABELS  Dependent_Variable 'Dependent variable'.
EXECUTE.
IF  (rassrecv=1 and Retired=1) Dependent_Variable=2.
VARIABLE LABELS  Dependent_Variable 'Dependent variable'.
EXECUTE.
IF  (rassrecv=0 and Retired=2) Dependent_Variable=3.
VARIABLE LABELS  Dependent_Variable 'Dependent variable'.
EXECUTE.
IF  (rassrecv=1 and Retired=2) Dependent_Variable=4.
VARIABLE LABELS  Dependent_Variable 'Dependent variable'.
EXECUTE.
FREQUENCIES VARIABLES=Dependent_Variable
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.

IF  ((OB068_1=4 and (OB066_1+OB070_1)-rabyear >= 50) or (OB068_2=4 and
(OB066_2+OB070_2)-rabyear >=
    50) or (OB068_3=4 and (OB066_3+OB070_3)-rabyear >= 50) or (OB068_4=4 and
(OB066_4+OB070_4)-rabyear
    >= 50)) GrayDivorced2014=1.
VARIABLE LABELS  GrayDivorced2014 'Gray Divorced 2014'.
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced2014
  /ORDER=ANALYSIS.



RECODE GrayDivorced2014 (SYSMIS=2).
```

```
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced2014
  /ORDER=ANALYSIS.


IF  ((NB068_1=4 and (NB066_1+NB070_1)-rabyear >= 50) or (NB068_2=4 and
(NB066_2+NB070_2)-rabyear >=
    50) or (NB068_3=4 and (NB066_3+NB070_3)-rabyear >= 50) or (NB068_4=4 and
(NB066_4+NB070_4)-rabyear
    >= 50)) GrayDivorced2012=1.
VARIABLE LABELS  GrayDivorced2012 'Gray Divorced 2012'.
EXECUTE.
RECODE GrayDivorced2012 (SYSMIS=2).
EXECUTE.
IF  ((MB068_1=4 and (MB066_1+MB070_1)-rabyear >= 50) or (MB068_2=4 and
(MB066_2+MB070_2)-rabyear >=
    50) or (MB068_3=4 and (MB066_3+MB070_3)-rabyear >= 50) or (MB068_4=4 and
(MB066_4+MB070_4)-rabyear
    >= 50)) GrayDivorced2010=1.
VARIABLE LABELS  GrayDivorced2010 'Gray Divorced 2010'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
RECODE GrayDivorced2010 (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced2012 GrayDivorced2010
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
IF  ((LB068_1=4 and (LB066_1+LB070_1)-rabyear >= 50) or (LB068_2=4 and
(LB066_2+LB070_2)-rabyear >=
    50) or (LB068_3=4 and (LB066_3+LB070_3)-rabyear >= 50) or (LB068_4=4 and
(LB066_4+LB070_4)-rabyear
    >= 50)) GrayDivorced2008=1.
VARIABLE LABELS  GrayDivorced2008 'Gray Divorced 2008'.
```

```
EXECUTE.
RECODE GrayDivorced2008 (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced2008
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
IF  ((kB068_1=4 and (kB066_1+kB070_1)-rabyear >= 50) or (kB068_2=4 and
(kB066_2+kB070_2)-rabyear >=
    50) or (kB068_3=4 and (kB066_3+kB070_3)-rabyear >= 50) or (kB068_4=4 and
(kB066_4+kB070_4)-rabyear
    >= 50)) GrayDivorced2006=1.
VARIABLE LABELS  GrayDivorced2006 'Gray Divorced 2006'.
EXECUTE.
RECODE GrayDivorced2006 (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced2006
  /ORDER=ANALYSIS.

DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
IF  ((jB068_1=4 and (jB066_1+jB070_1)-rabyear >= 50) or (jB068_2=4 and
(jB066_2+jB070_2)-rabyear >=
    50) or (jB068_3=4 and (jB066_3+jB070_3)-rabyear >= 50) or (jB068_4=4 and
(jB066_4+jB070_4)-rabyear
    >= 50)) GrayDivorced2004=1.
VARIABLE LABELS  GrayDivorced2004 'Gray Divorced 2004'.
EXECUTE.
RECODE GrayDivorced2004 (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced2004
  /ORDER=ANALYSIS.

DATASET ACTIVATE DataSet1.
```

```
SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
IF  ((hB068_1=4 and (hB066_1+hB070_1)-rabyear >= 50) or (hB068_2=4 and
(hB066_2+hB070_2)-rabyear >=
    50) or (hB068_3=4 and (hB066_3+hB070_3)-rabyear >= 50)) GrayDivorced2002=1.
VARIABLE LABELS  GrayDivorced2002 'Gray Divorced 2002'.
EXECUTE.
RECODE GrayDivorced2002 (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced2002
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
IF  ((G1162=4 and (G1160+G1163)-rabyear >= 50) or (G1166=4 and (G1164+G1167)-
rabyear >= 50) or
    (G1170 and (G1168+G1171)-rabyear >= 50) or (G1174=4 and (G1172+G1175)-
rabyear >= 50))
    GrayDivorced2000=1.
VARIABLE LABELS  GrayDivorced2000 'Gray Divorced 2002'.
EXECUTE.
RECODE GrayDivorced2000 (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced2000
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
IF  ((f1075=4 and (f1073+f1076)-rabyear >= 50) or (f1079=4 and (f1077+f1080)-rabyear
>= 50) or
    (f1083=4 and (f1081+f1084)-rabyear >= 50) or (f1087=4 and (f1085+f1088)-rabyear
>= 50))
```

```
   GrayDivorced1998=1.
VARIABLE LABELS  GrayDivorced1998 'Gray Divorced 1998'.
EXECUTE.
RECODE GrayDivorced1998 (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced1998
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
IF  ((E680=4 and (E678+E681)-rabyear >= 50) or (E684=4 and (E682+E685)-rabyear >=
50) )
   GrayDivorced1996=1.
VARIABLE LABELS  GrayDivorced1996 'Gray Divorced 1996'.
EXECUTE.
RECODE GrayDivorced1996 (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorced1996
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/merged dataset.sav'
  /COMPRESSED.
COMPUTE
GrayDivorcedAll=ANY(GrayDivorced2014,GrayDivorced2012,GrayDivorced2010,Gray
Divorced2008,

GrayDivorced2006,GrayDivorced2004,GrayDivorced2002,GrayDivorced2000,GrayDivo
rced1998,
   GrayDivorced1996,1).
VARIABLE LABELS  GrayDivorcedAll 'Gray Divorced 1996'.
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorcedAll
  /ORDER=ANALYSIS.
```

```
COMPUTE
GrayDivorcedAll=MIN(GrayDivorced2014,GrayDivorced2012,GrayDivorced2010,Gray
Divorced2008,

GrayDivorced2006,GrayDivorced2004,GrayDivorced2002,GrayDivorced2000,GrayDivo
rced1998,
   GrayDivorced1996,1).
VARIABLE LABELS  GrayDivorcedAll 'Gray Divorced 1996'.
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorcedAll
  /ORDER=ANALYSIS.


COMPUTE
GrayDivorcedAll=SUM(GrayDivorced2014,GrayDivorced2012,GrayDivorced2010,Gray
Divorced2008,

GrayDivorced2006,GrayDivorced2004,GrayDivorced2002,GrayDivorced2000,GrayDivo
rced1998,
   GrayDivorced1996).
VARIABLE LABELS  GrayDivorcedAll 'Gray Divorced 1996'.
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorcedAll
  /ORDER=ANALYSIS.


SORT CASES BY GrayDivorcedAll(A).
RECODE GrayDivorced2014 (SYSMIS=0).
EXECUTE.
RECODE GrayDivorced2012 (SYSMIS=0).
EXECUTE.
RECODE GrayDivorced2010 (SYSMIS=0).
EXECUTE.
RECODE GrayDivorced2008 (SYSMIS=0).
EXECUTE.
RECODE GrayDivorced2006 (SYSMIS=0).
EXECUTE.
RECODE GrayDivorced2004 (SYSMIS=0).
EXECUTE.
RECODE GrayDivorced2002 (SYSMIS=0).
EXECUTE.
```

```
RECODE GrayDivorced2000 (SYSMIS=0).
EXECUTE.
RECODE GrayDivorced1998 (SYSMIS=0).
EXECUTE.
RECODE GrayDivorced1996 (SYSMIS=0).
EXECUTE.
COMPUTE
GrayDivorcedAll=SUM(GrayDivorced2014,GrayDivorced2012,GrayDivorced2010,Gray
Divorced2008,

GrayDivorced2006,GrayDivorced2004,GrayDivorced2002,GrayDivorced2000,GrayDivo
rced1998,
   GrayDivorced1996).
VARIABLE LABELS  GrayDivorcedAll 'Gray Divorced in any wave'.
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorcedAll
  /ORDER=ANALYSIS.



RECODE GrayDivorced2014 (2=0).
EXECUTE.
RECODE GrayDivorced2012 (2=0).
EXECUTE.
RECODE GrayDivorced2010 (2=0).
EXECUTE.
RECODE GrayDivorced2008 (2=0).
EXECUTE.
RECODE GrayDivorced2006 (2=0).
EXECUTE.
RECODE GrayDivorced2004 (2=0).
EXECUTE.
RECODE GrayDivorced2002 (2=0).
EXECUTE.
RECODE GrayDivorced2000 (2=0).
EXECUTE.
RECODE GrayDivorced1998 (2=0).
EXECUTE.
RECODE GrayDivorced1996 (2=0).
EXECUTE.
COMPUTE
GrayDivorcedAll=SUM(GrayDivorced2014,GrayDivorced2012,GrayDivorced2010,Gray
Divorced2008,
```

```
GrayDivorced2006,GrayDivorced2004,GrayDivorced2002,GrayDivorced2000,GrayDivo
rced1998,
    GrayDivorced1996).
VARIABLE LABELS  GrayDivorcedAll 'Gray Divorced in any wave'.
EXECUTE.
FREQUENCIES VARIABLES=GrayDivorcedAll
  /ORDER=ANALYSIS.


DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
GET
  FILE='/Users/sarastolbergberkowicz/Dropbox/merged RAND HRS2014 b.1946-52.sav'.
DATASET NAME DataSet2 WINDOW=FRONT.
DATASET ACTIVATE DataSet1.
IF  (OB068_1=4) Divorce_Recency2014_1=2014-(OB066_1+OB070_1).
VARIABLE LABELS  Divorce_Recency2014_1 'Divorce Recency 2014 1st marriage'.
EXECUTE.
SORT CASES BY OB066_1(A).
SORT CASES BY OB066_1(D).
SORT CASES BY Divorce_Recency2014_1(D).
IF  (OB068_2=4) Divorce_Recency2014_2=2014-(OB066_2+OB070_2).
VARIABLE LABELS  Divorce_Recency2014_2 'Divorce Recency 2014 2nd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2014_2(D).
IF  (OB068_3=4) Divorce_Recency2014_3=2014-(OB066_3+OB070_3).
VARIABLE LABELS  Divorce_Recency2014_3 'Divorce Recency 2014 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2014_3(D).
IF  (OB068_4=4) Divorce_Recency2014_4=2014-(OB066_4+OB070_4).
VARIABLE LABELS  Divorce_Recency2014_4 'Divorce Recency 2014 4th marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2014_4(D).
IF  (OB068_3=4) Divorce_Recency2014_3=2014-(OB066_3+OB070_3).
VARIABLE LABELS  Divorce_Recency2014_3 'Divorce Recency 2014 3rd marriage'.
EXECUTE.
IF  (NB068_1=4) Divorce_Recency2012_1=2014-(NB066_1+NB070_1).
VARIABLE LABELS  Divorce_Recency2012_1 'Divorce Recency 2012 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2012_1(D).
DATASET ACTIVATE DataSet1.
```

```
SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (NB068_2=4) Divorce_Recency2012_2=2014-(NB066_2+NB070_2).
VARIABLE LABELS  Divorce_Recency2012_2 'Divorce Recency 2012 2nd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2012_2(D).
IF  (NB068_2=4) Divorce_Recency2012_2=2014-(NB066_2+NB070_2).
VARIABLE LABELS  Divorce_Recency2012_2 'Divorce Recency 2012 2nd marriage'.
EXECUTE.
IF  (NB068_1=4) Divorce_Recency2012_1=2014-(NB066_1+NB070_1).
VARIABLE LABELS  Divorce_Recency2012_1 'Divorce Recency 2012 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2012_2(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (NB068_3=4) Divorce_Recency2012_3=2014-(NB066_3+NB070_3).
VARIABLE LABELS  Divorce_Recency2012_3 'Divorce Recency 2012 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2012_3(D).
IF  (NB068_3=4) Divorce_Recency2012_3=2014-(NB066_3+NB070_3).
VARIABLE LABELS  Divorce_Recency2012_3 'Divorce Recency 2012 3rd marriage'.
EXECUTE.
IF  (NB068_4=4) Divorce_Recency2012_4=2014-(NB066_4+NB070_4).
VARIABLE LABELS  Divorce_Recency2012_4 'Divorce Recency 2012 4th marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2012_4(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (MB068_1=4) Divorce_Recency2010_1=2014-(MB066_1+MB070_1).
VARIABLE LABELS  Divorce_Recency2010_1 'Divorce Recency 2010 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2010_1(D).
IF  (MB068_1=4) Divorce_Recency2010_1=2014-(MB066_1+MB070_1).
VARIABLE LABELS  Divorce_Recency2010_1 'Divorce Recency 2010 1st marriage'.
EXECUTE.
DATASET ACTIVATE DataSet1.
```

```
SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (MB068_2=4) Divorce_Recency2010_2=2014-(MB066_2+MB070_2).
VARIABLE LABELS  Divorce_Recency2010_2 'Divorce Recency 2010 2nd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2010_2(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (MB068_3=4) Divorce_Recency2010_3=2014-(MB066_3+MB070_3).
VARIABLE LABELS  Divorce_Recency2010_3 'Divorce Recency 2010 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2010_3(D).
IF  (MB068_3=4) Divorce_Recency2010_3=2014-(MB066_3+MB070_3).
VARIABLE LABELS  Divorce_Recency2010_3 'Divorce Recency 2010 3rd marriage'.
EXECUTE.
IF  (MB068_3=4) Divorce_Recency2010_3=2014-(MB066_3+MB070_3).
VARIABLE LABELS  Divorce_Recency2010_3 'Divorce Recency 2010 3rd marriage'.
EXECUTE.
IF  (MB068_4=4) Divorce_Recency2010_4=2014-(MB066_4+MB070_4).
VARIABLE LABELS  Divorce_Recency2010_4 'Divorce Recency 2010 4th marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2010_4(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (lB068_1=4) Divorce_Recency2008_1=2014-(lB066_1+lB070_1).
VARIABLE LABELS  Divorce_Recency2008_1 'Divorce Recency 2008 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2008_1(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (lB068_2=4) Divorce_Recency2008_2=2014-(lB066_2+lB070_2).
VARIABLE LABELS  Divorce_Recency2008_2 'Divorce Recency 2008 2nd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2008_2(D).
IF  (lB068_2=4) Divorce_Recency2008_2=2014-(lB066_2+lB070_2).
VARIABLE LABELS  Divorce_Recency2008_2 'Divorce Recency 2008 2nd marriage'.
```

```
EXECUTE.
SORT CASES BY Divorce_Recency2008_2(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (lB068_3=4) Divorce_Recency2008_3=2014-(lB066_3+lB070_3).
VARIABLE LABELS  Divorce_Recency2008_3 'Divorce Recency 2008 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2008_3(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (lB068_4=4) Divorce_Recency2008_4=2014-(lB066_4+lB070_4).
VARIABLE LABELS  Divorce_Recency2008_4 'Divorce Recency 2008 4th marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2008_4(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (kB068_4=4) Divorce_Recency2006_1=2014-(kB066_4+kB070_4).
VARIABLE LABELS  Divorce_Recency2006_1 'Divorce Recency 2006 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2006_1(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (kB068_1=4) Divorce_Recency2006_1=2014-(kB066_1+kB070_1).
VARIABLE LABELS  Divorce_Recency2006_1 'Divorce Recency 2006 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2006_1(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (kB068_2=4) Divorce_Recency2006_2=2014-(kB066_2+kB070_2).
VARIABLE LABELS  Divorce_Recency2006_2 'Divorce Recency 2006 2nd marriage'.
EXECUTE.
```

```
SORT CASES BY Divorce_Recency2006_2(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (kB068_3=4) Divorce_Recency2006_3=2014-(kB066_3+kB070_3).
VARIABLE LABELS  Divorce_Recency2006_3 'Divorce Recency 2006 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2006_3(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (kB068_4=4) Divorce_Recency2006_4=2014-(kB066_4+kB070_4).
VARIABLE LABELS  Divorce_Recency2006_4 'Divorce Recency 2006 4th marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2006_4(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (jB068_1=4) Divorce_Recency2004_1=2014-(jB066_1+jB070_1).
VARIABLE LABELS  Divorce_Recency2004_1 'Divorce Recency 2004 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2004_1(D).
IF  (jB068_1=4) Divorce_Recency2004_1=2014-(jB066_1+jB070_1).
VARIABLE LABELS  Divorce_Recency2004_1 'Divorce Recency 2004 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2004_1(D).
IF  (jB068_1=4) Divorce_Recency2004_1=2014-(jB066_1+jB070_1).
VARIABLE LABELS  Divorce_Recency2004_1 'Divorce Recency 2004 1st marriage'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (jB068_2=4) Divorce_Recency2004_2=2014-(jB066_2+jB070_2).
VARIABLE LABELS  Divorce_Recency2004_2 'Divorce Recency 2004 2nd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2004_2(D).
IF  (jB068_2=4) Divorce_Recency2004_2=2014-(jB066_2+jB070_2).
VARIABLE LABELS  Divorce_Recency2004_2 'Divorce Recency 2004 2nd marriage'.
```

```
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (jB068_3=4) Divorce_Recency2004_3=2014-(jB066_3+jB070_3).
VARIABLE LABELS  Divorce_Recency2004_3 'Divorce Recency 2004 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2004_3(D).
IF  (jB068_3=4) Divorce_Recency2004_3=2014-(jB066_3+jB070_3).
VARIABLE LABELS  Divorce_Recency2004_3 'Divorce Recency 2004 3rd marriage'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (jB068_4=4) Divorce_Recency2004_4=2014-(jB066_4+jB070_4).
VARIABLE LABELS  Divorce_Recency2004_4 'Divorce Recency 2004 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2004_4(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (hB068_1=4) Divorce_Recency2002_1=2014-(hB066_1+hB070_1).
VARIABLE LABELS  Divorce_Recency2002_1 'Divorce Recency 2002 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2002_1(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (hB068_2=4) Divorce_Recency2002_2=2014-(hB066_2+hB070_2).
VARIABLE LABELS  Divorce_Recency2002_2 'Divorce Recency 2002 2nd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2002_2(D).
IF  (hB068_2=4) Divorce_Recency2002_2=2014-(hB066_2+hB070_2).
VARIABLE LABELS  Divorce_Recency2002_2 'Divorce Recency 2002 2nd marriage'.
EXECUTE.
IF  (hB068_3=4) Divorce_Recency2002_3=2014-(hB066_3+hB070_3).
VARIABLE LABELS  Divorce_Recency2002_3 'Divorce Recency 2002 3rd marriage'.
EXECUTE.
```

```
SORT CASES BY Divorce_Recency2002_3(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (G1162=4) Divorce_Recency2000_1=2014-(G1160+G1163).
VARIABLE LABELS  Divorce_Recency2000_1 'Divorce Recency 2002 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2000_1(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (G1166=4) Divorce_Recency2000_2=2014-(G1164+G1167).
VARIABLE LABELS  Divorce_Recency2000_2 'Divorce Recency 2002 2nd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2000_2(D).
IF  (G1170=4) Divorce_Recency2000_3=2014-(G1168+G1171).
VARIABLE LABELS  Divorce_Recency2000_3 'Divorce Recency 2002 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2000_3(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (G1174=4) Divorce_Recency2000_4=2014-(G1172+G1175).
VARIABLE LABELS  Divorce_Recency2000_4 'Divorce Recency 2000 most recent marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency2000_4(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (f1075=4) Divorce_Recency1998_1=2014-(f1073+f1076).
VARIABLE LABELS  Divorce_Recency1998_1 'Divorce Recency 1998 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency1998_1(D).
```

```
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (f1079=4) Divorce_Recency1998_2=2014-(f1077+f1080).
VARIABLE LABELS  Divorce_Recency1998_2 'Divorce Recency 1998 2nd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency1998_2(D).
IF  (f1079=4) Divorce_Recency1998_2=2014-(f1077+f1080).
VARIABLE LABELS  Divorce_Recency1998_2 'Divorce Recency 1998 2nd marriage'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (f1083=4) Divorce_Recency1998_3=2014-(f1081+f1084).
VARIABLE LABELS  Divorce_Recency1998_3 'Divorce Recency 1998 3rd marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency1998_3(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (E680=4) Divorce_Recency1996_1=2014-(E678+E681).
VARIABLE LABELS  Divorce_Recency1996_1 'Divorce Recency 1996 1st marriage'.
EXECUTE.
SORT CASES BY Divorce_Recency1996_1(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
COMPUTE
Divorce_Recency_all=MIN(Divorce_Recency2014_1,Divorce_Recency2014_2,Divorce_Recenc
y2014_3,

Divorce_Recency2014_4,Divorce_Recency2012_1,Divorce_Recency2012_2,Divorce_Recency2
012_3,

Divorce_Recency2012_4,Divorce_Recency2010_1,Divorce_Recency2010_2,Divorce_Recency2
010_3,
```

```
Divorce_Recency2010_4,Divorce_Recency2008_1,Divorce_Recency2008_2,Divorce_Recency2
008_3,

Divorce_Recency2008_4,Divorce_Recency2006_1,Divorce_Recency2006_2,Divorce_Recency2
006_3,

Divorce_Recency2006_4,Divorce_Recency2004_1,Divorce_Recency2004_2,Divorce_Recency2
004_3,

Divorce_Recency2004_4,Divorce_Recency2002_1,Divorce_Recency2002_2,Divorce_Recency2
002_3,

Divorce_Recency2000_1,Divorce_Recency2000_2,Divorce_Recency2000_3,Divorce_Recency2
000_4,

Divorce_Recency1998_1,Divorce_Recency1998_2,Divorce_Recency1998_3,Divorce_Recency1
996_1).
VARIABLE LABELS  Divorce_Recency_all 'Divorce Recency all marriages'.
EXECUTE.
DATASET ACTIVATE DataSet1.

IF  (GrayDivorcedAll=1) GrayDiv_DivRecency=1.
VARIABLE LABELS  GrayDiv_DivRecency 'Gray divorce and Divorce recency
combined'.
EXECUTE.
GET
  FILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'.
DATASET NAME DataSet4 WINDOW=FRONT.
DATASET ACTIVATE DataSet4.
DATASET CLOSE DataSet3.
IF  (GrayDivorcedAll=1) GrayDiv_DivRecency=1.
VARIABLE LABELS  GrayDiv_DivRecency 'Gray divorce and divorce recency
combined'.
EXECUTE.
IF  (GrayDivorcedAll<1 and DivorceRecency3cat=2) GrayDiv_DivRecency=2.
VARIABLE LABELS  GrayDiv_DivRecency 'Gray divorce and divorce recency
combined'.
EXECUTE.
IF  (GrayDivorcedAll<1 and DivorceRecency3cat=3) GrayDiv_DivRecency=3.
VARIABLE LABELS  GrayDiv_DivRecency 'Gray divorce and divorce recency
combined'.
EXECUTE.
IF  (GrayDivorcedAll<1 and DivorceRecency3cat=4) GrayDiv_DivRecency=4.
```

```
VARIABLE LABELS  GrayDiv_DivRecency 'Gray divorce and divorce recency
combined'.
EXECUTE.
FREQUENCIES VARIABLES=GrayDiv_DivRecency
  /ORDER=ANALYSIS.


SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
DATASET ACTIVATE DataSet2.
DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet2.
IF  (OER063 >= 50 or OER065 >= 50 or OER066>50 or (OG199 >= 1 and OG199 = 5) or
(OG200 >= 1 and
    OG200 = 5) or (OG201 >1 and OG201 = 5) or OF122_1 >= 50 or OF124_1 >= 50 or
OF125_1 >50 or
    OF122_2 >= 50 or OF124_2 >= 50 or OF125_2 >50 or OF122_3 >= 50 or OF124_3 >= 50 or
OF125_3 >50 or
    OF142_1 >= 50 or OF144_1 >= 50 or OF145_1 > 50 or OF142_2 >= 50 or OF144_2 >= 50 or
OF145_2 > 50 or
    OFP127_1>50 or OFP127_2>50 or OFP129_1 >= 50 or OFP129_2 >= 50 or OFP130_1 > 50
or OFP130_2 > 50 or
    OFP147_1 >= 50 or OFP147_2 >= 50 or OFP149_1 >= 50 or OFP149_2 >= 50 or OFP150_1
> 50 or OFP150_2 >
    50) CaretakingResp2014=1.
VARIABLE LABELS  CaretakingResp2014 'Caretaking Responsibilities 2014'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (NER063 >= 50 or NER065 >= 50 or NER066>50 or (NG199 >= 1 and NG199 = 5) or
(NG200 >= 1 and
    NG200 = 5) or (NG201 >1 and NG201 = 5) or NF122_1 >= 50 or NF124_1 >= 50 or
NF125_1 >50 or
    NF122_2 >= 50 or NF124_2 >= 50 or NF125_2 >50 or NF122_3 >= 50 or NF124_3 >= 50 or
NF125_3 >50 or
    NF142_1 >= 50 or NF144_1 >= 50 or NF145_1 > 50 or NF142_2 >= 50 or NF144_2 >= 50 or
NF145_2 > 50 or
    NFP127_1>50 or NFP127_2>50 or NFP129_1 >= 50 or NFP129_2 >= 50 or NFP130_1 > 50
or NFP130_2 > 50 or
    NFP147_1 >= 50 or NFP147_2 >= 50 or NFP149_1 >= 50 or NFP149_2 >= 50 or NFP150_1
> 50 or NFP150_2 >
    50) CaretakingResp2012=1.
```

```
VARIABLE LABELS  CaretakingResp2012 'Caretaking Responsibilities 2012'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (MER063 >= 50 or MER065 >= 50 or MER066>50 or (MG199 >= 1 and MG199 = 5) or
(MG200 >= 1 and
    MG200 = 5) or (MG201 >1 and MG201 = 5) or MF122_1 >= 50 or MF124_1 >= 50 or
MF125_1 >50 or
    MF122_2 >= 50 or MF124_2 >= 50 or MF125_2 >50 or MF122_3 >= 50 or MF124_3 >= 50
or MF125_3 >50 or
    MF142_1 >= 50 or MF144_1 >= 50 or MF145_1 > 50 or MF142_2 >= 50 or MF144_2 >= 50
or MF145_2 > 50 or
    MFP127_1>50 or MFP127_2>50 or MFP129_1 >= 50 or MFP129_2 >= 50 or MFP130_1 >
50 or MFP130_2 > 50 or
    MFP147_1 >= 50 or MFP147_2 >= 50 or MFP149_1 >= 50 or MFP149_2 >= 50 or
MFP150_1 > 50 or MFP150_2 >
    50) CaretakingResp2010=1.
VARIABLE LABELS  CaretakingResp2010 'Caretaking Responsibilities 2010'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (lER063 >= 50 or lER065 >= 50 or lER066>50 or (lG199 >= 1 and lG199 = 5) or (lG200 >=
1 and
    lG200 = 5) or (lG201 >1 and lG201 = 5) or lF122_1 >= 50 or lF124_1 >= 50 or lF125_1 >50
or
    lF122_2 >= 50 or lF124_2 >= 50 or lF125_2 >50 or lF122_3 >= 50 or lF124_3 >= 50 or
lF125_3 >50 or
    lF142_1 >= 50 or lF144_1 >= 50 or lF145_1 > 50 or lF142_2 >= 50 or lF144_2 >= 50 or
lF145_2 > 50 or
    lFP127_1>50 or lFP127_2>50 or lFP129_1 >= 50 or lFP129_2 >= 50 or lFP130_1 > 50 or
lFP130_2 > 50 or
    lFP147_1 >= 50 or lFP147_2 >= 50 or lFP149_1 >= 50 or lFP149_2 >= 50 or lFP150_1 > 50
or lFP150_2 >
    50) CaretakingResp2008=1.
VARIABLE LABELS  CaretakingResp2008 'Caretaking Responsibilities 2008'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
```

```
  /COMPRESSED.
IF  (kER063 >= 50 or kER065 >= 50 or kER066>50 or (kG199 >= 1 and kG199 = 5) or (kG200
>= 1 and
   kG200 = 5) or (kG201 >1 and kG201 = 5) or kF122_1 >= 50 or kF124_1 >= 50 or kF125_1
>50 or
   kF122_2 >= 50 or kF124_2 >= 50 or kF125_2 >50 or kF122_3 >= 50 or kF124_3 >= 50 or
kF125_3 >50 or
   kF142_1 >= 50 or kF144_1 >= 50 or kF145_1 > 50 or kF142_2 >= 50 or kF144_2 >= 50 or
kF145_2 > 50 or
   kFP127_1>50 or kFP127_2>50 or kFP129_1 >= 50 or kFP129_2 >= 50 or kFP130_1 > 50 or
kFP130_2 > 50 or
   kFP147_1 >= 50 or kFP147_2 >= 50 or kFP149_1 >= 50 or kFP149_2 >= 50 or kFP150_1 >
50 or kFP150_2 >
   50) CaretakingResp2006=1.
VARIABLE LABELS  CaretakingResp2006 'Caretaking Responsibilities 2006'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (jER063 >= 50 or jER065 >= 50 or jER066>50 or (jG199 >= 1 and jG199 = 5) or (jG200 >=
1 and
   jG200 = 5) or (jG201 >1 and jG201 = 5) or jF122_1 >= 50 or jF124_1 >= 50 or jF125_1 >50
or
   jF122_2 >= 50 or jF124_2 >= 50 or jF125_2 >50 or jF122_3 >= 50 or jF124_3 >= 50 or
jF125_3 >50 or
   jF142_1 >= 50 or jF144_1 >= 50 or jF145_1 > 50 or jF142_2 >= 50 or jF144_2 >= 50 or
jF145_2 > 50 or
   jFP127_1>50 or jFP127_2>50 or jFP129_1 >= 50 or jFP129_2 >= 50 or jFP130_1 > 50 or
jFP130_2 > 50 or
   jFP147_1 >= 50 or jFP147_2 >= 50 or jFP149_1 >= 50 or jFP149_2 >= 50 or jFP150_1 > 50
or jFP150_2 >
   50) CaretakingResp2004=1.
VARIABLE LABELS  CaretakingResp2004 'Caretaking Responsibilities 2004'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (hER063 >= 50 or hER065 >= 50 or hER066>50 or (hG092 >= 1 and hG092 = 5) or (hG094
>= 1 and
   hG094 = 5) or (hG095 >1 and hG095 = 5) or hF122_1 >= 50 or hF124_1 >= 50 or hF125_1
>50 or
```

```
   hF122_2 >= 50 or hF124_2 >= 50 or hF125_2 >50 or hF122_3 >= 50 or hF124_3 >= 50 or
hF125_3 >50 or
   hF142_1 >= 50 or hF144_1 >= 50 or hF145_1 > 50 or hF142_2 >= 50 or hF144_2 >= 50 or
hF145_2 > 50 or
   hFP127_1>50 or hFP127_2>50 or hFP129_1 >= 50 or hFP129_2 >= 50 or hFP130_1 > 50 or
hFP130_2 > 50 or
   hFP147_1 >= 50 or hFP147_2 >= 50 or hFP149_1 >= 50 or hFP149_2 >= 50 or hFP150_1 >
50 or hFP150_2 >
   50) CaretakingResp2002=1.
VARIABLE LABELS  CaretakingResp2002 'Caretaking Responsibilities 2002'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (G2999>=50 or (G3000>=1 AND G3000=5) or (G3001>=1 and G3001=5) or G2050>=50 or
G2051>=50 or
   G2052>50 or G2266_1 >= 50 or G2266_2 >= 50 or (G2267_1 >=1 and G2268_1=5) or
(G2267_2 >=1 and
   G2268_2=5) or G2284_1 >= 50 or G2284_2 >= 50 or (G2285_1 >=1 and G2286_1=5) or
(G2285_2 >=1 and
   G2286_2=5) or G2443_1 >= 50 or G2443_2 >= 50 or (G2444_1>=1 and G2445_1=5) or
(G2444_2 >=1 and
   G2445_2=5) or G2461_1 >= 50 or (G2462_1>=1 and G2463_1=5) or G2464_1 >= 50 or
(G2465_1 >=1 and
   G2466_1=5) ) CaretakingResp2000=1.
VARIABLE LABELS  CaretakingResp2000 'Caretaking Responsibilities 2000'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
SORT CASES BY OER063(D).
SORT CASES BY OER066(D).
SORT CASES BY OFP150_2(D).
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
```

```
  /COMPRESSED.
IF  (f1834>=50 or (f1835>=1 AND f1835=5) or (f1836>=1 and f1836=5) or f2681>=50 or
(f2682 >=1 and
    f2682=5) or (f2683>=1 and f2683=5) or f2030_1>= 50 or f2030_2 >= 50 or (f2031_1 >=1 and
    f2031_1=5) or (f2031_2 >=1 and f2031_2=5) or f2032_1>= 50 or f2032_1 >= 50 or
(f2032_2>=1 and
    f2032_2=5) or f2048_1>= 50 or f2048_2 >= 50 or (f2049_1>=1 and f2049_1=5) or
(f2049_2>=1 and
    f2049_2=5) or (f2050_1>=1 and f2050_1=5) or (f2050_2>=1 and f2050_2=5) or f2192_1 >=
50 or
    f2192_2 >= 50 or (f2193_1>=1 and f2193_1=5) or (f2193_2>=1 and f2193_2=5) or
(f2194_1>=1 and
    f2194_1=5) or (f2194_2>=1 and f2210_1=5) or (f2211_1>=1 and f2211_1=5) or (f2212_1>=1
and
    f2212_1=5)) CaretakingResp1998=1.
VARIABLE LABELS  CaretakingResp1998 'Caretaking Responsibilities 1998'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
IF  (E2172>=50 or (E2173>=1 AND E2173=5) or (E2174>=1 and E2174=5) or E1546>=50 or
(E1547>=1 and
    E1547=5) or (E1548>=1 and E1548=5) or E1686_1>= 50 or E1686_2 >= 50 or E1686_6 >=
50 or E1686_7
    >= 50 or (E1687_1 >=1 and E1687_1=5) or (E1687_2 >=1 and E1687_2=5) or (E1687_6>=1
and
    E1687_6=5) or (E1687_7>=1 and E1687_7=5) or (E1688_1>=1 and E1688_1=5) or
(E1688_2>=1 and
    E1688_2=5) or (E1688_6>=1 and E1688_6=5) or (E1688_7>=1 and E1688_7=5) or E1706_1
>= 50 or
    E1706_2 >= 50 or E1706_6 >= 50 or E1706_7 >= 50 or (E1707_1>=1 and E1707_1=5) or
(E1707_2>=1 and
    E1707_2=5) or (E1707_6>=1 and E1707_6=5) or (E1707_7>=1 and E1707_7=5) or
(E1708_1>=1 and
    E1708_1=5) or (E1708_2>=1 AND E1708_2=5) or (E1708_6>=1 and E1708_6=5) or
(E1708_7 >=1 and
    E1708_7=5)) CaretakingResp1996=1.
VARIABLE LABELS  CaretakingResp1996 'Caretaking Responsibilities 1996'.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation work/merged
dataset.sav'
  /COMPRESSED.
```

```
IF  (E2172>=50 or (E2173>=1 AND E2173=5) or (E2174>=1 and E2174=5) or E1546>=50 or
(E1547>=1 and
   E1547=5) or (E1548>=1 and E1548=5) or E1686_1>= 50 or E1686_2 >= 50 or E1686_6 >=
50 or E1686_7
   >= 50 or (E1687_1 >=1 and E1687_1=5) or (E1687_2 >=1 and E1687_2=5) or (E1687_6>=1
and
   E1687_6=5) or (E1687_7>=1 and E1687_7=5) or (E1688_1>=1 and E1688_1=5) or
(E1688_2>=1 and
   E1688_2=5) or (E1688_6>=1 and E1688_6=5) or (E1688_7>=1 and E1688_7=5) or E1706_1
>= 50 or
   E1706_2 >= 50 or E1706_6 >= 50 or E1706_7 >= 50 or (E1707_1>=1 and E1707_1=5) or
(E1707_2>=1 and
   E1707_2=5) or (E1707_6>=1 and E1707_6=5) or (E1707_7>=1 and E1707_7=5) or
(E1708_1>=1 and
   E1708_1=5) or (E1708_2>=1 AND E1708_2=5) or (E1708_6>=1 and E1708_6=5) or
(E1708_7 >=1 and
   E1708_7=5))
CaretakingResp_All=ANY(CaretakingResp2014,CaretakingResp2012,CaretakingResp2010,

CaretakingResp2008,CaretakingResp2006,CaretakingResp2004,CaretakingResp2002,Caretaking
Resp2000,
   CaretakingResp1996,CaretakingResp1998,1).
VARIABLE LABELS  CaretakingResp_All 'Caretaking Responsibilities 1996'.
EXECUTE.
FREQUENCIES VARIABLES=CaretakingResp_All
  /ORDER=ANALYSIS.


COMPUTE
CaretakingResp_All=ANY(CaretakingResp2014,CaretakingResp2012,CaretakingResp20
10,

CaretakingResp2008,CaretakingResp2006,CaretakingResp2004,CaretakingResp2002,Car
etakingResp2000,
   CaretakingResp1996,CaretakingResp1998,1).
VARIABLE LABELS  CaretakingResp_All 'Caretaking Responsibilities 1996'.
EXECUTE.
FREQUENCIES VARIABLES=CaretakingResp_All
  /ORDER=ANALYSIS.


RECODE CaretakingResp_All (1=1) (SYSMIS=2).
EXECUTE.
FREQUENCIES VARIABLES=CaretakingResp_All
```

```
  /ORDER=ANALYSIS.

DATASET ACTIVATE mergedMALE.
FREQUENCIES VARIABLES=raracem r12mstath raeduc r12shlt CaretakingResp_All
r_age Divorce_Recency_all
    GrayDivorcedAll Retired rassrecv r12mrct r12mdiv r12mwid r12mnev
  /STATISTICS=STDDEV MEAN
  /ORDER=ANALYSIS.


DATASET ACTIVATE mergedFEMALE.
FREQUENCIES VARIABLES=raracem r12mstath r12shlt CaretakingResp_All r_age
DivorceRecency3cat
    Divorce_Recency_all GrayDivorcedAll Retired rassrecv r12mrct r12mdiv r12mwid
r12mnev
  /STATISTICS=STDDEV MEAN
  /ORDER=ANALYSIS.


DATASET ACTIVATE male.

SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/mergedMALE dataset.sav'
  /COMPRESSED.
NOMREG Dependent_Variable (BASE=LAST ORDER=ASCENDING) BY
GrayDiv_DivRecency Race Marital_status
    Education Self_reported_health CaretakingResp_All
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20)
LCONVERGE(0) PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL=GrayDiv_DivRecency Race Marital_status Education Self_reported_health
CaretakingResp_All
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE)
ENTRYMETHOD(LR) REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=PARAMETER SUMMARY LRT CPS STEP MFI.


SAVE OUTFILE='/Users/sarastolbergberkowicz/Dropbox/2018 Dissertation
work/mergedFEMALE dataset.sav'
  /COMPRESSED.
NOMREG Dependent_Variable (BASE=LAST ORDER=ASCENDING) BY Race
CaretakingResp_All Marital_status
```

```
    Education Self_reported_health GrayDiv_DivRecency
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20)
LCONVERGE(0) PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL=Race CaretakingResp_All Marital_status Education Self_reported_health
GrayDiv_DivRecency
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE)
ENTRYMETHOD(LR) REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=PARAMETER SUMMARY LRT CPS STEP MFI.
```