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# Marital History and Retirement Security: An Empirical Analysis of the Work, Family, and Gender Relationship

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MARITAL HISTORY AND RETIREMENT SECURITY: AN EMPIRICAL  
ANALYSIS OF THE WORK, FAMILY, AND GENDER RELATIONSHIP

A Dissertation Presented

by

LAUREN A. MARTIN PALMER

Submitted to the Office of Graduate Studies,  
University of Massachusetts Boston,  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2015

Gerontology Program

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## ABSTRACT

### MARITAL HISTORY AND RETIREMENT SECURITY: AN EMPIRICAL ANALYSIS OF THE WORK, FAMILY, AND GENDER RELATIONSHIP

December 2015

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Directed by Professor Maximiliane E. Szinovacz

This dissertation investigates the relationship between marital history and individuals' retirement resources, namely Social Security, employer-sponsored pensions, and non-housing wealth. Prior research provides a foundation for understanding marriage's positive relationship to retirement security, and suggests that marriage is financially beneficial and can even lessen some external factors that would otherwise damage a family's financial situation. Yet changing demographics, with fewer people in first marriages and rising numbers of individuals experiencing divorce and choosing to remain unmarried, suggest our understanding of this relationship for today's retirees may be limited. The purpose of this research is to identify which aspects of complex marital histories are associated with individuals' retirement security, paying particular attention to gender differences. Using data from nine waves of the Health and Retirement Study

(1992-2008), four facets of marital history are examined: marriage type, frequency, timing, and duration. Currently married and currently unmarried respondents are separated during the analyses in order to adequately capture the association between previous marital events and retirement resources. The results indicate that marital history is associated with Social Security, employer-sponsored pensions, and non-housing wealth differently, and that these relationships vary by gender and current marital status. The findings provide support for the argument that marital history, and in particular marital duration, has a strong relationship to retirement resources. Contrary to expectations, currently married women with longer marriages have less Social Security and pension income than married women who experienced shorter marriages. Marital history has no relationship to the retirement security of married men. For the unmarried groups, never married men have the lowest odds of receiving an employer-sponsored pension and have less non-housing wealth than both divorce and widowed men. Unmarried women's retirement security is associated with the type of disruption experienced; women with multiple past marriages have more resources if they are currently widowed but less if they are currently divorced. Further study is needed to understand how and why complex marital history factors have a relationship to retirement finances, and to expand our knowledge about certain understudied populations such as remarried women and never married men.

## DEDICATION

This dissertation is lovingly dedicated to my grandmothers. To my Nana, Dorothy Martin, for believing in me and making sure I knew how proud she was of my accomplishments. To my Mémé, Beatrice Bergeron, for her support, encouragement, and love that has helped guide me throughout my life. She remains forever in my thoughts.

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I am grateful to my parents for all their love and support, and I appreciate their sacrifices. I would not have been able to get to this stage without them. To my sister for her unending support, optimism, and love, she was always there to tell me I would finish when it needed to be said.

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## CHAPTER 1

### INTRODUCTION

#### **Research Background**

For decades, researchers and policy makers have considered the demands an aging population places on social services, future generations of workers, and society as a whole. The number of older adults living in the United States is projected to increase from 43.1 million people in 2012 to 83.7 million by the year 2050 (Ortman, Velkoff, & Hogan, 2014). If, for the most part, this enormous older population could financially support themselves in old age much of the current discussion and political debate surrounding the country's social programs would be minor. Our social safety nets, however, have become less generous, and most businesses have adopted defined contribution plans that shift the risks of investment onto individual workers and their families. Compounded with the economic downturn of the late 2000's, many Americans nearing retirement experienced financial loss and unemployment. Even in the best of times, individuals often enter into retirement with inadequate portfolios (i.e., lacking retirement income from multiple sources: Social Security, pensions, and savings). In some cases, workers possess insufficient knowledge on how and how much to save (Helman, Copeland, & Van Derhei, 2011), are forced out of their jobs early (Szinovacz &

Davey, 2005), or never take part in retirement planning at all (Ekerdt, DeViney, & Kosloski, 1996).

Research consistently suggests that, even in the face of unfavorable financial conditions, being married can lessen or even negate some external factors that would otherwise damage a family's financial situation. Picturing the financial benefits of marriage is not difficult; two people are engaged in a long-term contract designed to ensure commitment and mutual benefit to both parties. For example, in a two-earner couple if one spouse loses his job the couple can live on the other spouse's salary while the unemployed spouse seeks work. Underlying sources of the financial advantages married couples have over single persons include an efficient division of labor and their ability to consume goods jointly. Consequently, just as marriage has financial benefits, exiting a marriage and the years spent unmarried also have financial consequences.

The purpose of this research is to identify which aspects of complex marital histories are associated with older workers' retirement security, paying particular attention to gender differences. Specifically, the study will determine whether a lifetime of marital changes has a relationship to the major sources of retirement income (i.e., savings, Social Security, and pensions) and whether these associations differ for men and women.

The linkages between marital histories, retirement security, and old-age poverty need to be better understood. For decades, researchers explored how individuals end up with varying levels of wealth and assets in retirement. Prior research has identified three major areas that have a large influence on the accumulation of wealth: health, education,

and work history (Braveman, Egerter, & Williams, 2011; diPrete & Eirich, 2006; Pollack et al., 2007; Sirin, 2005). A better understanding of the influence of these life course trajectories on old age finances has developed over time. Chapter 3 presents the idea of cumulative advantage and disadvantage, which forms the basis of this dissertation's conceptual framework. The framework will guide data analysis exploring whether to add a fourth life course pathway, marital history, to the list of areas that have a major influence on the accumulation of retirement resources. Marital pathways, I argue, have a significant and lasting influence on the financial security of individuals in retirement.

### **Research Contributions**

Older Americans can live financially independent in old age if an adequate amount of retirement income is flowing from all three sources: Social Security, pensions, and savings. Yet adequate funding from all three is far from the reality for most retirees (National Research Council, 2012; Yao & Peng, 2012). Individual histories of marriage and the family, and the relationship to building retirement income and wealth provide insight into the complexity of and variation in saving for retirement.

Extant literature, however, is inadequate for understanding the connection between marital disruptions and long-term economic outcomes. First, the majority of research on marital status and retirement income focuses on married people or compares married individuals to the unmarried, measuring the effects of marriage solely by relying on current marital status. The changing demographics of the new cohorts of retirees, with fewer individuals in first marriages and rising numbers of individuals with complex marital histories (Holden & Kuo, 1996), suggest this research is limited in understanding

how the institution of marriage affects retirement income. Within marital groups, such as the widowed or the remarried, individuals experience different trajectories such as multiple marital dissolutions or diverse lengths of time in their married or unmarried states (Holden & Kuo, 1996). Historically, research has focused on factors that promoted or impeded financial retirement planning among the married (Coile, 2004; Matthews & Fisher, 2012). As a result, there is now limited information about the widowed, divorced, separated, remarried, and never-married groups.

Several studies explored marital history to understand wealth accumulation and used data from the Health and Retirement Study (Angel, Jimenez, & Angel, 2007; Holden & Kuo, 1996; Ulker, 2009; Wilmoth & Koso, 2002; Zissimopoulos, Karney, & Rauer, 2008), as will this dissertation. Much of this work was exploratory analysis of marital history's relationship to household wealth and assets. Wilmoth and Koso (2002) were the first to truly expand upon the range of marital statuses by distinguishing remarried people from those in their first marriage. They found that the continuously married had more wealth than the remarried. Work done by Ulker (2009) years later confirmed this wealth difference, but argued that the difference was small enough to suggest that remarriage helps individuals recover from previous marital shocks. Other researchers explored how wealth gains and losses were influenced by the event of a marital change and whether financial outcomes differed for men and women (Angel et al., 2007; Ulker, 2009; Zissimopoulos, 2009; Zissimopoulos et al., 2008). Overall, the results demonstrated that marital history, specifically having a complex marital history, played a role in reducing the wealth holdings of individuals but particularly for women.

This dissertation will enhance earlier research in several ways. First, this research investigates the economic situation of individuals at retirement, not during their working years, providing a better picture of their retirement security. Most individuals do not begin thinking and planning for retirement until mid-life and have a significant increase in retirement savings in the years preceding retirement (Ekerdt, Kosloski, & DeViney, 2000). Although individuals can go back to work to supplement income, this study measures financial security at the point of retirement to provide a picture of the effect of a lifetime of marital transitions on retirement resources. Second, this research will study marital history variables on each piece of an individual's retirement portfolio to explore whether marital changes are associated with Social Security income, pension income, and assets equally. Third, though all of the papers highlighted above greatly enhanced our understanding of marital history's relationship to wealth, none of them included all the crucial element of marital history in their study: the type of transitions, the timing of events in the context of the life course, the duration of marital statuses, and the frequency of marital changes. Lastly, this work will pool sixteen years of data on individuals from nine waves of the Health and Retirement Study improving our understanding beyond the majority of authors' narrow focus on individuals of working age in 1992.

An additional aim of this dissertation is to enhance our understanding of whether the changes to women's family-work life balance have improved their retirement prospects. On the one hand, the women of today may be better equipped to plan and save for their own retirement and deal with marital disruptions. There are more women in the workforce today and, when the option to contribute to a pension plan is available, they

are contributing at similar or even slightly higher rates than men (Munnell & Quinby, 2009; Munnell & Sass, 2005). Complex marital histories may affect these women less because they are more educated, have their own work history, and experience labor force shifts that protect them against overwhelming financial losses (Dushi & Iams, 2008). On the other hand, the retirees of today are more likely to experience marital disruptions and to spend less time married compared to older cohorts (Lin & Brown, 2012). The growth in defined contribution plans combined with the increase in the rates of divorce and decrease in remarriage rates may influence the ability of today's women to plan and save for retirement (Holden & Smock, 1991; Munnell & Sass, 2005; Zagorsky, 2005). Therefore, marital history may affect them more than previous generations because of the accumulation of disadvantages over time due to experiencing more marital disruptions, spending less time married, and being more likely to experience disruptions while planning for retirement. This dissertation hopes to investigate these contradictory viewpoints.

### **Organization of Remaining Chapters**

Chapter 2 presents a summary of the three main sources of retirement income in the United States and an in-depth literature review. The purpose of the first half of this chapter is to provide the reader with a foundation for understanding the ways in which average Americans can and do accumulate retirement assets for their later years. For each financial resource, the section outlines a brief history and definitions, an understanding of the resource's current utilization and a comparison of utilization by gender. The chapter will proceed with an exhaustive literature review of marital history and retirement

security, focusing on the different pathways individuals can take through their married life including choosing never to marry. This will follow with a discussion of the evolving work-family life over the last half-century, exploring how these changes may affect retirement security for different generations.

Chapter 3 presents the paper's theoretical framework developed from the life course perspective and the cumulative advantage/disadvantage framework in order to guide our understanding of the potential reasons behind inherent disadvantages for individuals with marital disruptions. First, the chapter describes the life course perspective and cumulative advantage/disadvantage theory, and then applies each specifically to the topic of this research. The chapter follows with a discussion of the conceptual framework guiding this dissertation and ends with an outline of the research questions.

Chapter 4 will illustrate the methodology for testing these research questions and Chapter 5 will present the results from the analyses. In the final section of the paper, Chapter 6 outlines the conclusions drawn from these research findings, explores how the results add to previous literature and inform policy, and suggests policy implications and directions for future research.

## CHAPTER 2

### MARITAL STATUS AND ECONOMIC SECURITY IN LATER LIFE: A REVIEW OF THE LITERATURE

#### **Problem Statement**

Economic security in old age is extremely important for the well-being of individuals, yet almost half of today's older Americans are finding themselves "economically vulnerable" and unable to improve their financial situation (Gould & David, 2013). As policy makers debate changes to the social programs relied on by older Americans, researchers continue to investigate the reasons behind certain people's financial shortcomings. Economically vulnerable populations are often on the cusp of poverty, where a single financial shock could push them over the edge (Gould & David, 2013). These lower-income elderly households depend heavily on programs such as Social Security, and dramatic changes to this public pension system may drive them into poverty. For these and future generations of retirees, it is important to understand how our current social policies and vehicles for retirement saving are assisting or hindering their ability to build their retirement resources. Do all people feel the advantages and disadvantages equally or do retirement saving opportunities vary for different groups? Specifically for the purposes of this paper, are those experiencing complex marital histories inherently disadvantaged?

## **Retirement Income Sources in the United States**

Understanding what influences a person's ability to grow their retirement security is of particular importance to policy makers, researchers, and politicians. Increases in defined contribution pension plans (e.g., 401(k) plans) and debates about the privatization of Social Security suggest a growing interest in requiring workers to take on more responsibility and risk in financial preparations for retirement (Butrica, Iams, Smith, & Toder, 2009; Chan & Stevens, 2003; Kitao, 2014; Orlova, Rutledge, & Wu, 2015; Shuey & O'Rand, 2006). The reality is that many individuals enter into retirement with inadequate funds because they have little to no income from pensions and personal savings, and must rely on Social Security (Waid, 2014). Social Security benefits are the most common source of income for Americans aged 65 and older. Furthermore, 22 percent of married and 45 percent of unmarried people over age 65 are receiving 90 percent or more of their income from their Social Security checks (Social Security Administration, 2013a). Partly to blame is the limited financial and investment knowledge of the average investor (Lusardi, 2006), yet many workers do not have employer-sponsored pension options or may not have disposable income to contribute to such plans. For those who are eligible and able, a quarter do not participate in their company's 401(k) plan (Munnell & Sunden, 2004). Policies to expand savings under individual retirement accounts (IRAs) and employer-sponsored 401(k) plans could provide workers with increased incentives to save, but policy makers must consider how the ownership of such plans varies significantly by income.

Both work histories and marital histories influence the ability to build adequate retirement income because of their influence on Social Security benefits, employer-sponsored pension plans, and personal savings (Tamborini & Whitman, 2007). For example, Social Security benefits favor marriage and, as politicians debate changes to the system's benefit structure, understanding retirement preparedness as it relates to marital history can inform the discussion. Given the increasing number of unmarried older adults with complex marital histories, retirement income policy must consider the rationale behind government services and tax advantages that benefit married people or assist unmarried widows (Tamborini & Whitman, 2007), and whether current pension and saving schemes place divorcees, the separated, and the never married at a disadvantage.

### **Social Security**

The United States Congress created Social Security in 1935 to support the growing number of older people who lived in poverty and were no longer able to work. The Old Age and Survivors Insurance (OASI) Trust Fund began distributing funds to retired workers and their families in 1937. Through many reforms over the years, the Social Security system remains an indispensable source of income to millions of older Americans. Currently, over 46 million beneficiaries are receiving payments from the OASI Trust Fund (Social Security Administration, 2013a). About 40 million of these individuals are retired workers and their families, while the remaining 6 million are the survivors of deceased workers who paid into the Social Security system. Retired workers are eligible for benefits if their work history includes enough years in covered employment (i.e., a minimum of forty "quarters of coverage" or credits earned during

their working years) and they are at least 62 years old. The “primary insurance amount” (PIA), which is the amount a person receives if he or she begins receiving at the normal retirement age (NRA), is the basis for calculating benefit amounts. The NRA varies from age 65 to 67 based on birth year. Receiving payments earlier than this age results in a reduction in benefits, while full benefits are payable if individuals wait until their NRA.

In terms of benefits to families, Social Security may provide a spousal benefit to the retired worker’s married partner. To receive a spousal benefit, the spouse of a retired worker must either have a qualifying child in their care or be at least 62 years old. Spousal benefits can be as high as half of the retired worker’s PIA, and this depends on the age of the worker when he or she chooses to begin receiving benefits. Increasingly, due to the growth in dual-earner couples, spouses may be eligible for their own Social Security retirement benefit and if this amount is higher than what they would receive from the spousal benefit, their own retirement benefit is paid. The reverse is also true, meaning if the spousal benefit is the higher benefit amount the individual will receive this payment each month. In other words, the individual’s Social Security benefit from her work history and her spousal benefit are not combined into one monthly benefit. If an individual is divorced, he or she may still receive a spousal benefit if the following eligibility criteria apply: the marriage lasted 10 years or longer and the divorced spouse remains unmarried, is age 62 or older, and has a personal benefit that is less than what she would receive based on her ex-spouse’s earnings. If the divorced spouse remarries, she will not receive a benefit based on her previous marriage.

Social Security also pays benefits to the surviving families of workers who paid into the system during their years of employment. A widow(er) who is at least 60 years old or a younger widow(er) who has a qualifying child can expect to receive benefits if they were married to their spouse for at least 9 months before the individual died. If the survivor remarries after age 60, the new marriage will not affect his or her eligibility for survivor benefits.

Social Security is the single largest financial contributor to the retirement security of older adults and remains a steady income source until their death. The average monthly benefit in 2013 for a retired worker was \$1,269 and for survivors was \$1,221 (Social Security Administration, 2013a). The average benefit of a couple, both receiving a benefit, was \$2,048 per month. According to the Social Security Administration, estimates suggest that Social Security covers 94 percent of all American workers and this monthly benefit represents 39 percent of the income of the elderly. The importance of this benefit is even more obvious for those who retired with no pension coverage (51% of the workforce) or no savings set aside for their retirement years (34% of the workforce)(Social Security Administration, 2013b). Social Security is directly responsible for keeping many Americans out of poverty. As mentioned, 23 percent of married couples and 46 percent of unmarried individuals are receiving over 90 percent of their income from their Social Security benefits (Social Security Administration, 2013b).

Though it provides a livelihood for millions of Americans, the Social Security policies and benefit structure are antiquated. The Social Security system was created with families in mind at a time in history when a single-earner family, typically with the wife

as the homemaker and the husband as the breadwinner, was the norm (Berkowitz, 2002). This model of a family was the foundation for the Social Security system and in 1939, lawmakers added the spousal and survivor benefits to support the non-working wife who, in most instances, would outlive her working husband. Seven decades later, spousal and survivor benefits are paid to half of women over the age of 62, indicating their own benefit is lower than what they qualify for as a spouse (Harrington Meyer, Wolf, & Himes, 2006; Social Security Administration, 2013a). In other words, the benefits from their own work history are less than the benefits they receive from their marital history (Harrington Meyer et al., 2006). Since the creation of this public pension system, however, there have been dramatic changes to family structure in the United States and appropriate revisions lag behind.

As described above, both an individual's work history and marital history determine Social Security eligibility and the amount of benefits received. The fathers of Social Security did not anticipate the shifts in work and marital history, particularly for women. The rise in two-earner couples and women spending more time in the workforce, earning higher wages, and accumulating more pension benefits is coupled with national increases in divorce, decreases in remarriage, and postponement of widowhood. These trends paint a very different picture of family-work life than when Social Security was established. For unmarried individuals, eligibility for divorce and widow(er) benefits is modestly declining as the average length of time married is decreasing (Harrington Meyer et al., 2006; Iams & Tamborini, 2012; Tamborini, Iams, & Whitman, 2009). Thus, women increasingly have to rely on their own work history and Social Security benefits

in retirement. Still, the system is particularly supportive of women in old age, even today. Due to the progressive benefit structure, the average woman's lower earnings and longer life span mean that she will receive more total benefits over her lifetime than a man (Social Security Administration, 2012b). She is also still more likely to benefit from the spousal or survivor benefit structure than a man, with over 50 percent of women receiving Social Security benefits as a wife or widow and 27 percent of these women qualifying for dual entitlement (i.e., paid on the basis of their own earnings and those of their husbands) (Social Security Administration, 2012b, 2013a). In contrast, there is very little research on the Social Security spouse or survivor benefits for men, perhaps because there are so few men to whom this situation applies (Social Security Administration, 2013a). In 2010, 97.8% of individuals receiving monthly survivor benefits were women (Weaver, 2010). Though economic security for women has improved, women are still more likely than men to experience poverty in old age (Tamborini et al., 2009). Social Security benefits are crucial in keeping many more of them out of poverty.

### **Employer-Sponsored Pensions**

Workers make significant strides toward increasing their retirement wealth by adding two additional resources to their portfolio: employer-sponsored pensions and individual savings. Unlike Social Security benefits, employer-sponsored pension coverage is not universal and pension plans are more likely to be offered for some occupations and in some industries than others (Clark, Ghent, & Headen, 1994). Research suggests that the unfortunate reality of pension savings is that, unless you have a company sponsored plan, you don't save for retirement (Beshears, Choi, Laibson, &

Madrian, 2009; Munnell & Quinby, 2009). The original nature of employer-sponsored pensions was to provide companies with a competitive edge when hiring new employees, to encourage worker retention, and to promote orderly retirement of older workers (Clark, Burkhauser, Moon, Quinn, & Smeeding, 2004, p. 137; Thane, 2006).

For the purposes of this paper, so as not to confuse the Social Security system with other pension accounts in the narrative, all non-Social Security pension plans will be designated by the term “employer-sponsored pension.” There are two general types of employer-sponsored pension accounts: defined benefit (DB) and defined contribution (DC). These two plan types differ in benefit determination, funding source, investment risks, and plan portability.

In a DB plan, employers pay out benefits to retired workers based on a formula determined by the organization that adheres to the requirements of the Employee Retirement Income Security Act (ERISA). Knowing the benefit formula up front means employees in a DB plan are aware of their promised benefit amount upon retirement. DB plans are generally considered better for employees. Coverage is typically universal for workers in a company with DB plans given the worker remains employed for a specified period of time. After vesting, the typical formula for calculating benefits factors in an employee’s years of service, age at retirement, and final salary level. Payment is in the form of lifetime annuities. Another formula, more common in union plans, looks at the worker’s years of service and gives a set amount for each year worked. The regulatory status of DB plans also separates them from DC plans. For example, current federal law requires the default annuity option for DB plans to be a Qualified Joint and Survivor’s

Annuity. This means that unless a spouse agrees to a single-life annuity or lump-sum payment, the plan will pay the surviving spouse at least half of the retirement benefits received while the former worker was living. Moreover, the passage of ERISA in 1974 created the Pension Benefit Guaranty Corporation, which insures DB pension benefits in the event a company is unable to pay out promised benefits to their employees.

There are disadvantages tied to DB plans, and one major issue lies with its lack of portability. Workers who switch jobs frequently will have drastically lower retirement benefits, due to a benefit formula that is based partly on years of service and average salary from their last few years of employment. The final benefit amount is not increased for inflation, so if the benefit was earned 20 years ago, the benefit will be lower than if the benefit was calculated on the average salary at the time of retirement. An additional downside of DB plan benefits not keeping up with inflation is that, because benefits are fixed upon retirement, the value of the pension is much less 20 years into retirement. Furthermore, non-vested individuals are never eligible for the employer-sponsored pension benefits. Vesting typically means working for 5 to 10 years with the same company, and those who leave before vesting generally receive a lump sum of their contributions.

In a DC plan, funds go into an account for each participating individual, and these contributions and any investment gains or losses result in the final funds accrued. Workers choose between a number of options to invest their account funds and they assume the risk of their investment. Whereas the employer's benefit formula (not the market) determines retirees' final benefits in a DB plan, in a DC plan the benefit formula

determines how much is paid into the account for the employee. An important advantage of DC plans, in contrast to DB plans, is their portability. Thus, DC plans allow workers to transfer their pension through job changes, making these types of pension plans more accessible. Another important benefit of DC plans is that individuals can withdraw their contributions as a lump sum at retirement, and the funds can continue to grow depending on how the individual distributes and invests the money. The nature of DC plans, however, is one of individual financial risk.

Participation in DC plans is almost always voluntary and savers must make personal decisions about contributions, investment, and withdrawal, which has been shown to result in a high chance of making the wrong decision (Benartzi & Thaler, 2007; Hurd & Panis, 2006). For example, Benartzi and Thaler (2007) show that DC contributors often find investment choices too complex, so they have a high share of assets in their employer's stock and do not diversify their portfolio. Since DC plans also distribute retirement monies in a lump sum, retirees must decide how to manage the funds and take additional steps to annuitize their final sum to ensure a steady stream of income in retirement. The vast majority do not annuitize their savings even when given the option (Perun, 2007) and this creates the real possibility that retirees will outlive their pension benefits.

In the United States, most retirement plans offer a significant tax incentive to the contributor. The purpose is to encourage individuals and their employers to contribute to a retirement pension, yet recent data show only about one-third of older individuals (or about 42% of senior-headed households) receive income from employer-sponsored

pensions in their retirement years (Social Security Administration, 2012a, 2013b). This proportion of workers with employer-sponsored pension coverage has actually remained quite stable over the last few decades, yet the composition of pension plans has shifted (Clark et al., 2004, p. 151). There was a marked shift away from DB plans toward the usage of DC plans as businesses observed a number of disadvantages to DB plans such as high employer costs, administrative burdens, and the unpredictability of expenses.

Regulatory changes to DB plans, and the administrative costs associated with these changes in particular, result in a higher burden for employers in offering these pension plans. This set the stage for the development and growth of the popular 401(k) plan and DC plans in general (Clark et al., 2004). Currently, DC plans are more prevalent than DB plans which is beneficial to mobile workers; however, research suggests a decrease in overall pension savings compared to DB plans, partly due to the lack of participation of workers who are covered. In 2010, individuals over age 65 with a state or local government DB pension received a median benefit of about \$20,000 per year, while seniors with a private DC pension received a median benefit of \$8,844, and those with a private employer-sponsored DB plan received a median of \$12,700 per year (Social Security Administration, 2012a).

Employer-sponsored pension coverage remains an important source of retirement income and helps maintain financial well-being beyond what Social Security can provide. Holding an employer-sponsored pension has been associated with the decision and ability to retire early (Honig, 1996), adequate replacement of pre-retirement income, and avoidance of poverty even after the death of a spouse (Brady, 2014; Holden, Burkhauser,

& Feaster, 1988). In fact, the introduction of 401(k) plans occurred only about 30 years ago, so older cohorts of retirees still benefit largely from DB pensions. Younger employees, in contrast, are now more likely to have a DC plan than older generations, and scholars continue to study the impact this shift in pension options has on retirement security (Butrica et al., 2009; Clark et al., 2004; Orlova et al., 2015).

While research suggests women are making progress in possessing employer-sponsored pensions based on their own work history, pension schemes and how they are offered may make it harder for women to acquire and contribute to a plan than men (Munnell & Sass, 2005; Shuey & O'Rand, 2006). While in general people are not contributing enough to their pension plans to save for retirement (Bajtelsmit et al., 2005; Chan & Stevens, 2003; Ekerdt & Hackney, 2002), women often have lower rates of employer-sponsored pension coverage and lower pension wealth than men given the nature of these plans. Women have less continuous work histories (Pienta, Burr, & Mutchler, 1994) and have fewer work opportunities because of childrearing and caregiving duties which have not lessened for working women over time (Moen, Robison, & Fields, 1994; Wakabayashi & Donato, 2005, 2006). Moreover, the industries historically staffed by men are more likely to offer employer-sponsored pensions and, in particular, to provide defined benefit plans (Clark et al., 1994), though this gender difference is changing as government workers now make up the majority of defined benefit pensioners and more women are in the workforce (Munnell, 2006).

The interplay of work history and family life plays a role in pension benefits, though the outcomes are very different for men and women. As mentioned above, women

performed most childrearing and family caregiving duties, and this still holds true today (Moen et al., 1994; Szinovacz, DeViney, & Davey, 2001; Van Houtven, Coe, & Skira, 2013). These family obligations can directly affect women's pension wealth; for example, taking a hiatus from their careers to raise children reduces the number of years of paid work. Literature suggests that women with children receive less hourly wages and are less likely to receive an employer-sponsored pension than women without children (Loughran & Zissimopoulos, 2008; Yabiku, 2000). Furthermore, women, particularly those caring for a spouse or aging parent, have a relatively high representation in part-time work (Jefferson, 2009), decrease their work hours to provide care, or are more likely to retire early to assume a caregiving role (Van Houtven et al., 2013). These factors all have negative effects on the accumulation of pension benefits. Caregiving can also indirectly affect pension wealth; a mother may be passed over for promotion because of time spent away from her career, influencing her earnings and lifetime income.

Women typically benefit from DB plan regulations that default to a joint and survivor annuity plan for couples. Statistically, workers are more likely to remain with the default option since the law requires written consent from the spouse (Beshears et al., 2009; Johnson, Uccello, & Goldwyn, 2003). In a way, DB pension regulations safeguard women from the significant costs of declining health, spouse death, and subsequent widowhood. The shift to fewer DB pension plans, therefore, could have detrimental consequences for older women. Women are more likely to outlive their husbands, and research suggests that there are increased costs prior to a spouse's death (Fan & Zick, 2006) and additional costs after widowhood (Fan & Zick, 2004). The highest proportion

of older people living in poverty continues to be unmarried women living alone (Hartmann & English, 2009).

In terms of DC plans, gender differences exist with regard to participation, investing, and withdrawals. Recent literature suggests men are more likely to take part in employer-sponsored pension plans (Bovbjerg, 2012) yet when only full-time, covered workers are considered, women have higher rates of participation (Copeland, 2006). Similar to DB plans, however, women's lower wages, part-time work, and caregiving duties affect the participation in and contributions to a DC plan (Jefferson, 2009). When they change jobs, women are also more likely to cash out any pension assets compared to men (Hardy & Shuey, 2000). Unmarried women in particular are the most likely to cash out a pension, putting them at risk of having no pension plan at all in retirement (Shuey & O'Rand, 2006).

Married individuals are generally better off than all unmarried groups with regard to their employer-sponsored pensions. Though one study found never married or divorced women had higher odds of receiving a pension compared to married women (Yabiku, 2000), it studied workers reporting on perceived pension benefits, rather than actual receipt of pension income. A more recent study suggests female-headed households, particularly those headed by divorced women, are the least likely to possess an employer-sponsored pension plan (Shuey & O'Rand, 2006). Women also have less knowledge about employer-sponsored pension plans than their male counterparts (Gustman & Steinmeier, 2001; Hardy & Shuey, 2000; Lusardi, 2006). Given workers with more financial literacy are more likely to respond appropriately to pension incentives and boost

their assets (Chan & Stevens, 2003), women are further disadvantaged particularly in DC plans. In terms of family history and men's pension receipt, unmarried men have lower odds of receiving an employer-sponsored pension compared to married men, and men with children are more likely to have a pension compared to their counterparts with no children (Yabiku, 2000).

In order to build adequate pension income and ensure financial security in retirement, it appears individuals are at an advantage if their company provides pension options and, if the plan is a defined contribution plan, they contribute to their pension and enhance their financial education. Social Security is an important piece of the puzzle, but is often considered a "safety net." Contributing significantly to employer-sponsored pensions can have a greater impact not only on achieving retirement security but also on living comfortably in retirement. As outlined above, not everyone has equal access to pension plans, the shift from DB to DC plans has placed investment risk on individual contributors, workers are often inadequately prepared to make decisions about their pensions, and the family-work life balance and marriage norms still put women at a disadvantage. Building personal savings and assets is an additional way workers can enhance their retirement portfolios.

### **Personal Savings and Assets**

The final source of retirement income includes personal financial resources like checking and savings accounts, stocks and bonds, real estate, Individual Retirement Accounts (IRAs) and Keogh's, rental property, homeownership, and businesses. An individual's net worth or wealth is determined by taking the value of his or her assets

owned minus any debts. While most Americans' primary saving vehicle is through their bank accounts (i.e., savings and checking accounts), the government has introduced additional mechanisms over time to encourage investment assets such as the savings bond programs and the creation of Traditional IRAs. United States policy promoted homeownership through the creation of government-sponsored entities that encourage homeownership and tax policies that allow tax deductions on mortgage payments. The more recent shift from defined benefit to defined contribution pension plans has encouraged both employers and the government to take steps to enhance financial literacy and improve individuals' ability to save on their own (Lusardi & Beeler, 2006).

There is consistent evidence, however, that a significant number of people are not saving enough for their retirement (Lusardi & Mitchell, 2007; Munnell, Golub-Sass, & Varani, 2005; Munnell, Webb, & Golub-Sass, 2007). Among the general population, personal saving rates are low and on the decline, in particular among those with low incomes (Hogarth & Aguelov, 2003; Munnell et al., 2005). Only one-fourth of workers with household incomes under \$35,000 have saved for retirement, which is down sharply from 49 percent in 2009 (EBRI, 2013). This suggests that many individuals may be unable to take on the responsibility and risk associated with growing their retirement nest egg, or that someone with less than \$35,000 in income has little disposable income to save. Researchers suggest that many individual retirement choices are based on misinformation and short-sighted goals (Gustman & Steinmeier, 2001), so even workers with good intentions may find themselves with insufficient savings in retirement. Individuals are found to accumulate less than they projected (Haider & Stephens, 2007)

or to actively under-save because they overestimate what they will receive in Social Security benefits (Rohwedder & van Soest, 2006).

A review of the retirement savings literature found the majority of papers focus on understanding the decision to save and asset allocation (see Gough & Niza, 2011). Gough and Niza (2011) show that very few papers examine family and social influences on savings behavior. Literature that does explore this topic compares married individuals to their unmarried counterparts and focuses almost exclusively on wealth. Findings suggest that married couples experience the benefit of economies of scale, allowing them more consumption for less expenditure compared to unmarried people (Zissimopoulos et al., 2008). Thus, the first major bolster to a married couple's wealth is their ability to consume goods jointly. The second relates to the benefits of shared labor, or labor specialization, which allows a married couple to work more efficiently as a unit rather than as two single individuals (Becker, 1981). Third, literature suggests married individuals receive health benefits from being married (Pienta, Hayward, & Jenkins, 2000) and therefore, they are able to work longer and arguably have more time to save before retiring (L. A. Lillard & Waite, 1995). Fourth, marital disruptions are shown to result in unexpected losses to wealth because of the costs associated with divorce and widowhood (Ulker, 2009; Zissimopoulos et al., 2008).

The timing of retirement also has implications for the savings and assets individuals have in old age, and research suggests marital status/history affects retirement timing. Retiring early, "on time," or late directly affects wealth in old age because upon retirement most individuals begin spending down assets, though most withdraw

conservatively (Smith, Soto, & Penner, 2009). While increasing numbers of individuals are going back to work after retirement or exiting the labor force gradually through “bridge jobs,” these positions are often lower pay and less hours than their career employment (Giandrea, Cahill, & Quinn, 2007; Quinn, 1999). Retirement timing is a household decision that most married couples consider jointly by evaluating both spouses’ work histories and assets (Henkens & van Solinge, 2002; Honig, 1998). In dual-earner couples, individuals often retire together even if this means an early retirement for the younger spouse (O’Rand & Farkas, 2002), and spouses with a close relationship are more likely to retire early than couples in unsatisfactory marriages (Szinovacz & DeViney, 2000). Unplanned health shocks, however, also have implications for retirement timing. While earlier retirement can be triggered by a spouse’s diminishing health and the burden of caregiving (Hayward, Friedman, & Chen, 1998), the costs of the spouse’s condition or disability may instead delay retirement (O’Rand & Farkas, 2002; Pienta, 2003; Szinovacz & DeViney, 2000).

While unmarried workers may not be dealing with a spouse’s health issues, individuals who experienced a marital disruption may find themselves planning and saving alone after they previously planned for joint retirement endeavors and/or joint retirement incomes. Moreover, individuals who experience divorce, even if they eventually remarry, have less retirement income and assets than people who remain married (Holden & Kuo, 1996). Unfortunately for women, they are more likely to be unmarried than men (Zissimopoulos et al., 2008) and it is unclear if women’s increases in

labor force participation and earnings will offset the loss of shared retirement income (Holden & Fontes, 2009).

Women are also at a disadvantage when it comes to their personal savings compared to men. Women are not only more likely to experience widowhood and less likely to remarry, which can have negative consequences for their ability to save, they are also found to be risk averse. Therefore, even at times when women are able to save, they are less likely than men to take risks and capitalize from high reward investments (Neelakantan & Chang, 2010). Neelakantan and Chang (2010) find, however, that gender preferences for financial risk taking alone cannot explain the gender gap in wealth at retirement. To reiterate, the interplay between family and work life is significant. The time women spend on childrearing and caregiving, and its influence on their lower pay, limited work opportunities, and reduced ability to save undermines their capacity to build financial security for later life.

Individuals grow their retirement security by developing a portfolio that includes Social Security, employer-sponsored pension income, and income from personal savings and assets. This research paper explores the argument that marital histories, particularly complex marital histories, influence a person's ability to build an adequate retirement portfolio. Complex marital histories are increasingly common among older adults; therefore, it is imperative that we understand whether our current retirement saving policies and programs are placing these individuals at a disadvantage. The next section will present a comprehensive literature review of the research on marital history and

retirement security in order to outline previous work that supports our current understanding of how marriage patterns affect retirement income.

### **Marital History and Retirement Security**

Retirement policy researchers and economists are at the forefront of studying the financial effects of marriage dissolution. This literature presents the benefits of assistance provided to the unmarried through Social Security benefits, child support, and alimony as well as the negative effects of complex marital histories for women (Butrica & Iams, 1999; DeViney & Solomon, 1995; Tamborini et al., 2009; Tamborini & Whitman, 2007). The research is limited, however, on the accumulation of marital changes and transitions over the life course. Whether a political intention or not, one of the factors that continues to influence the way society supports a person in old age is their marital history.

### **Marriage Trends and Family Structure in the United States**

Most studies on the relationship between marriage and retirement wealth were conducted on cohorts that did not experience several influential changes to family-work life: increases in two-earner couples, expectations of remaining in the workforce past age 65, postponement in widowhood and decreases in remarriage rates, increases in divorce rates, and increases in the variation of retirement plans (Holden & Kuo, 1996; Maestas, 2007). From the 1960s to the 1990s, trends in attitudes about the family were changing. Among shifting values were an increased acceptance of married women in the workforce (Goldin, 2006), trends toward gender equality and egalitarian decision-making in the family (Thornton & Young-DeMarco, 2001), and increased tolerance toward divorce, remaining single, and choosing to be childless (Arnet Connidis, 2010; Goldstein &

Kenney, 2001; Mammen, 2008; Ruggles, 1997). At the same time, the way workers planned, saved, and experienced retirement was changing. Employer pension schemes and retirement accounts shifted to a more individual approach where workers were responsible for ensuring their future financial well-being.

Though responsibilities shifted, literature suggests that the increases in working years, earnings, and pension participation resulted in more retirement wealth for those nearing retirement (Butrica, Smith, & Iams, 2012; Dushi & Iams, 2008; Johnson, Butrica, & Mommaerts, 2010; Munnell & Aubry, 2010; Stevens, 2008). Projections on the retirement patterns of the Baby Boomer cohort suggest that they will continue to work longer, earn more, and claim their Social Security benefits at later ages (Michaud & Rohwedder, 2008). Large discrepancies in who will find themselves financially secure in retirement, however, have also increased over time. The particular characteristics of race and ethnicity (Butrica & Smith, 2012b), education (Butrica & Iams, 2003), marital history (Smock, 1993), financial literacy (Lusardi & Beeler, 2006), and employer pension options (Stevens, 2008) all result in financial inequalities over the life course. These individual differences suggest that it is inaccurate to state that younger cohorts will be better off in retirement than older cohorts will be, simply because they have accumulated more wealth as a group. Retirement wealth does not equate to retirement security and some researchers suggest that even though current workers have accrued more retirement wealth than previous generations, it is not enough to maintain their current standard of living (Butrica et al., 2012).

With a clear shift from a modally continuously married population to one with increased heterogeneity and variation, understanding retirement security becomes more complex. Middle-aged Americans today are more likely to have experienced a marital disruption during their lifetime than past generations. These younger cohorts are more likely to be divorced or never married, and less likely to experience widowhood than previous generations of near-retirees (Lin & Brown, 2012; Zissimopoulos et al., 2008). If divorced, the younger cohorts tend to experience the disruption at earlier ages and their total years spent married are fewer than those of older cohorts (Zissimopoulos et al., 2008).

Complex marital histories are increasingly becoming the norm, indicating that marital status is now a discontinuous facet of many people's lives. To measure marital state as fixed and resilient is inappropriate. Demographic shifts with regard to the institution of marriage may be influencing individuals' retirement security. The first shift is in the frequency and type of marital disruptions, specifically that marital disruptions are more likely to happen, and more likely to be caused by divorce. Marital dissolutions (i.e., a legal term for a divorce) have historically hindered the ability of women to sustain their current lifestyle after the marriage dissolves. Women may have to divide their time and resources between caregiving and working in the labor market, reducing their work history. Until the 1970s, however, a break in marriage due to divorce was rare and most marriages that dissolved before retirement were due to widowhood (Becker, 1981). Thus, the second shift is the trend toward marriage instability (i.e., the propensity to be unmarried). Not only are marital dissolutions more likely to occur, but there is an

increase in the number of individuals who remain never married or choose not to remarry.

Demographic shifts that influence marital trends also include those related to changes in family patterns. Since World War II, the birth rate has declined, the divorce rate doubled, and women have increased their labor force participation and remained employed even after having children (Becker, 1981, p. 245; Isen & Stevenson, 2010). While these divergent features did not change all at once and to the same extent, they resulted in a very different picture of the American family by the 1980s. The nature of modern marriages and families is now distinctly different from that of the past. During the last few decades, cohabitation (i.e., living with a partner while unmarried) has become commonplace, women have more control over fertility and better access to education and employment, and families have to consider the costs associated with having a stay-at-home spouse (Isen & Stevenson, 2010). This increase in complex family patterns and marital histories will have a lasting effect, and for the purpose of this dissertation, may have an effect on individual retirement security.

### **Marriage, Family Life, and Retirement**

Research on the importance of family formation and marital history as a predictor for well-being in later life is accumulating, particularly with regard to wealth (Angel et al., 2007; Fethke, 1989; Holden & Kuo, 1996; McNamara, O'Grady-LeShane, & Williamson, 2003a; Ulker, 2009; Wilmoth & Koso, 2002; Zissimopoulos, 2009; Zissimopoulos et al., 2008). This area of research on family-retirement planning generally focuses on married couples, compares individuals who are married to those

who are not, or highlights the effects of being an unmarried woman. When considering detailed marital histories and their influence on retirement security specifically, the literature becomes sparser.

Marital status is a significant predictor of retirement behavior and wealth (Ekerdt et al., 2000; Kosloski, Ekerdt, & DeViney, 2001; McNamara et al., 2003a; Morgan, 1992; Szinovacz, Ekerdt, Butt, Barton, & Oala, 2012). Marriage generates a form of inequality which results in the married being financially better off than unmarried individuals (Lee & Rowley, 2009; O'Rand, 1996). Married people have higher savings and more high-risk investments (Glass & Kilpatrick, 1998), more wealth (Zissimopoulos et al., 2008), and lower poverty rates (Holden & Kuo, 1996). Marriage is also associated with better health (Pienta et al., 2000) and increased longevity (L. A. Lillard & Waite, 1995) which means these individuals can work longer and accumulate more wealth (Zissimopoulos et al., 2008). People who marry and stay married for a certain period of time are supported by tax incentives, Social Security's spousal and survivor benefits, and the option to share a single health plan (Tamborini & Whitman, 2007). Marital status, however, fluctuates for a large majority of the population and individuals in a particular status (i.e., married, divorced, widowed, etc.) are not homogeneous. Though research focusing on the effects of marital fluctuations is limited, scholars extensively studied financial inequalities between marital groups. One of the major relationships to emerge when exploring marital status's influence on retirement wealth is the moderating effect of gender.

Women in all types of marital statuses experience lower wealth holdings compared to men, due largely to the strong relationship between work life and family life.

Caregiving obligations also disproportionately fall on women and often result in sporadic work histories (Szinovacz et al., 2001). As previously mentioned, women are also more likely to work part-time or in a job with limited pension options, have lower rates of participation, and limited pension and financial knowledge. Moreover, women continue to experience lower workplace earnings (Shuey & O'Rand, 2006) and more than half of working women elect Social Security benefits as a wife or widow because their own work history provides fewer benefits than what they receive under their spouse's work history (Social Security Administration, 2012b).

The relationship between marital history, caregiving, and retirement demands greater attention from social researchers (Szinovacz et al., 2001). Women with children are less likely to receive a pension (Yabiku, 2000) and are more likely to experience a sporadic, limited work history. This results in less job experience and lower wages when compared to childless women (Budig & England, 2001; Loughran & Zissimopoulos, 2008), though the timing of childbearing matters (Pienta, 1999). Women who wait to have children and spend their younger years getting an education and working often build a greater attachment to the labor force once they do have children (Pienta, 1999).

Children are not the only care-receivers that influence retirement security for women. Though literature on the financial effects of caring for older relatives is limited, studies find caregiving forces people into an early retirement (Dentinger & Clarkberg, 2002; Orel, Landry-Meyer, & Spence, 2007; Szinovacz & Davey, 2004, 2005). Though women's labor force participation has increased for younger generations, some researchers suggests their caregiving responsibilities have not decreased and that there

may be little difference between employed and non-employed women with regard to their caregiving duties (Feinberg, Reinhard, Houser, & Choula, 2014; Moen et al., 1994; Wakabayashi & Donato, 2005). The need to care for an ill or disabled spouse or older family member also influences women's retirement timing (Dentinger & Clarkberg, 2002; Szinovacz & Davey, 2005), and women in low paying jobs are particularly at risk of leaving the labor market early (Henz, 2006). The fact that wives are often the caregivers rather than their husbands is tied to women's lower wages and employment opportunities (Sarkisian & Gerstel, 2004), in addition to traditional attitudes about caregiving. The long-term effects of this family-work relationship puts women at a disadvantage in later life, and is part of the reason women are more likely than men to experience poverty in old age (Tamborini et al., 2009; Wakabayashi & Donato, 2006). Women with marital histories that include marital disruptions are even worse off than their continuously married counterparts (Iams & Tamborini, 2012; Lee & Rowley, 2009).

### **Disruptions, Remarriage, and Retirement**

If marriage creates tangible benefits to a couple, the dissolution of a marriage should have costly consequences. Moreover, the effects associated with the disruption may influence the individual over the life course. Extant literature indicates that individuals becoming divorced or widowed often experience a decrease in their household income and financial well-being (Angel et al., 2007; Holden & Kuo, 1996; McKeever & Wolfinger, 2001; Smock, 1993; Smock, Manning, & Gupta, 1999), labor force participation (Williamson & McNamara, 2003), and wealth accumulation (Ulker, 2009; Zissimopoulos, 2009). These negative outcomes are particularly true for unmarried

women. Both before and after marriage dissolutions, household expenses increase. For example, there are increased expenditures prior to the spouse's death (Fan & Zick, 2006) and additional costs after widowhood (Fan & Zick, 2004; Zissimopoulos, 2009). In addition, there is an automatic reduction in pension benefits that stems from losing the deceased spouse's benefits (Karamcheva & Munnell, 2007). With regard to divorce, wealth decreases significantly prior to divorce though there is some wealth recovery over time (Zissimopoulos, 2009). Research on cohorts of divorced women from the 1960's, 70's and 80's suggests that increasing labor force participation did not protect them from the cost of their divorce (Smock, 1993). A more recent study indicates that women's own work histories and the increases in income transfers from husbands have lessened the high cost of divorce (McKeever & Wolfinger, 2001) though costs remain greater for women than men.

For women, the challenge in attaining a secure retirement may relate to the loss of a partner for joint retirement planning, their spousal benefits, and any pre-retirement health insurance. As outlined, women experience difficulty building a retirement portfolio compared to men, and these gendered disadvantages compound with the effects of marital disruptions. Divorced women in particular struggle with financial preparations for retirement compared to their widowed counterparts (Lee & Rowley, 2009) which may be partially due to their ineligibility for Social Security spousal benefits if the marriage lasted less than 10 years (Iams & Tamborini, 2012).

Men also experience financial consequences after divorce and widowhood. A review of the literature from the 1980's (see Holden & Smock, 1991) suggests that men

experience an increase to their economic well-being following a divorce or separation. More recent research, however, suggests that men do experience a loss in household income, an increase in expenditures through support payments associated with divorce (McManus & DiPrete, 2001), and a loss in housing wealth (Zissimopoulos et al., 2008). While both men and women appear to suffer from costs associated with a marriage ending, women are notably worse off in situations that involve children (Smock, 1994). Specifically, Smock (1994) suggests that the reason women are financial worse off following a marital disruption stems partly from the mother's role as the primary caregiver. Zissimopoulos (2009) reveals that demographic and income control variables cannot explain the longitudinal changes in wealth among women in different marital status groups. In contrast, factors such as education and income did explain differences in men's wealth holdings. This suggests that marital history may influence women's, but not men's, retirement security. Research by Williamson and McNamara (2003) illuminate this gender difference further. They find that women, but not men, had a significant decrease in their labor force participation following a marital disruption. A more recent review of the literature focusing on divorce, however, finds that women are increasing their work substantially after a divorce occurs (Ozcan & Breen, 2012). Though these results are at odds, both studies indicate that marital changes have a relationship to women's work histories, but not to men's, further suggesting that a strong family-work life relationship exists for women.

Generally, people who remain continuously married accrue the most valuable retirement income portfolios. Marriage is so financially advantageous that a remarriage

lessens the negative effects of marital dissolution. Remarriage after a marital disruption benefits individuals, particularly widows, by increasing their wealth (Duncan & Hoffman, 1985; Wilmoth & Koso, 2002; Zissimopoulos, 2009) and allowing women to exit the labor force as they planned (Williamson & McNamara, 2003). In the case of individuals with multiple divorces, however, remarriage has fewer advantages (Wilmoth & Koso, 2002). This may be partially due to the decline in savings rates that begin years prior to a divorce (Zagorsky, 2005; Zissimopoulos, 2009). Though the positive effects of remarriage lessen with each marital disruption that occurs, there are always advantages. It is better, from a financial perspective, to be married, and researchers demonstrate that remarriage supports individuals as they plan and save for their retirement years (Holden & Kuo, 1996; Wilmoth & Koso, 2002).

The marital makeup of our population is changing dramatically, as the prevalence of complex marital pathways continues to grow and is increasingly due to divorce rather than widowhood. A national portrait of divorce in 2009 shows one in four divorces occurred to people ages 50 and older, and most of these individuals were separating from a remarriage rather than their first marriage (Brown & Lin, 2012). A snapshot of Baby Boomer families shows that one-third are unmarried, and the majority of these single Boomers are either divorced or never married (Lin & Brown, 2012). Research on marital dissolution in later-life must expand beyond widowhood since we are less knowledgeable about the causes and consequences of later-life divorce. The growing never married population also needs attention.

### **Never Married Individuals and Retirement**

An often-overlooked population that has been slowly increasing in size over the last few decades is the never married (Tamborini, 2007). While never married people should be included in studies on the effects of being unmarried, researchers often remove this group because of small sample size. Literature on never marrieds is scarce and often focuses on never married mothers, who generally occupy the lowest socioeconomic status (Bianchi, 1995; Zhan & Pandey, 2004). Less attention is paid to never married men and elders. Given the never married group currently has the largest proportion of elders in poverty, scholars cannot continue to exclude this population from research studies. Never married individuals by definition do not experience an unanticipated marital shock and, theoretically, are better prepared to build their retirement portfolio than divorced and widowed individuals. Yet, existing literature on never married people reveals a mixed picture.

Never marrieds make up only about 4.5 percent of older adults but this group is increasing. For example, only 5 percent of women between the ages of 50 and 59 were never married in 1990 but twenty years later, this group has nearly doubled to 9 percent of women (Iams & Tamborini, 2012). As the number of never married people continues to grow, they are becoming a larger proportion of the unmarried population. A recent snapshot of unmarried Baby Boomers shows that of all unmarried individuals, 26 percent of women and 38 percent of men have never married (Lin & Brown, 2012). This indicates that the makeup of the unmarried population is changing considerably from previous generations. Projections suggest that the economic security of retired never

married individuals will improve (Tamborini, 2007) as the status of being never married becomes more common. Perhaps more than any other marital status group, however, gender plays a major role in the financial status of never marrieds.

Previous research on older never married people suggests that both men and women are economically vulnerable (Tamborini, 2007). Characteristics related to the likelihood of a person getting married include higher education, earnings, and wealth suggesting a selectivity effect. Never married individuals may therefore be disproportionately in a low socioeconomic status group (White & Rogers, 2000). Recent examinations of the financial situations of never married Baby Boomers, however, reveals striking gender differences. Lin and Brown (2012) find that never married women are better off financially than their divorced and widowed counterparts, but that never married men are worse off than other unmarried men. Zissimopoulos et al. (2008) support this finding and show that never married men have significantly less lifetime earnings compared to divorced men, but never married women earn more than all other women. As the never married population reaches retirement age, studies focusing on this group must also increase. They are becoming a larger part of the experience of retirement, yet too little is known about this group.

As summarized above, retirement security in America generally refers to having adequate resources from Social Security benefits, employer-sponsored pension plans, and individual savings and assets. Retirement security and its relationship to marital history is an understudied, yet important area of research. Since both work history and marital history influence the ability to accumulate an adequate retirement portfolio, this

dissertation focuses on understanding how a lifetime of marital changes affects retirement income and whether there are gender differences. The theoretical framework and conceptual model guiding this research is presented in the next chapter.

## CHAPTER 3

### THEORETICAL FRAMEWORK

The 1960s and 1970s were a promising time for advances in theoretical concepts in the social sciences. During this period, the concepts of cumulative advantage/disadvantage and the life course perspective came to fruition (Elder, 1974; Merton, 1968; Price, 1965). Both provided important theoretical elements and groundwork for understanding cohort and age-related processes two decades later (Dannefer, 1987). Indeed, prior to the creation of longitudinal research methodology and datasets, and the development of theories that explored inequality and its relationship to aging, social scientists argued that aging – in particular the act of retirement – resulted in an “equalizing effect” in income and wealth among individuals (Crystal & Shea, 1990). Scholars pointed to the changes in people’s income sources as the equalizing force: retirees no longer brought home a paycheck and began receiving checks from social programs, like Social Security, that have a progressive benefit structure. Over time, changes to social programs, improvements to data analyses techniques, and the use of theoretical frameworks based on the life course perspective resulted in reversing this assumption.

Individual development and aging are lifelong processes; a typical person’s life unfolds over time as he or she passes through several stages of life events, notably

educational attainment, marriage, parenthood, career advancement, and retirement. The development of the *life course* concept in the social sciences provides a framework for understanding how major life events or transitions affect the trajectories of the life span. This framework is a natural fit for understanding how individuals build retirement income sources and wealth. The accumulation of these resources occurs over an individual's lifetime, and therefore the ideal way to understand resource accumulation involves looking at a person's entire life. Cumulative advantage/disadvantage theory enhances this concept further by explaining how different life course processes increase the heterogeneity of outcomes in later life. The cumulative advantage/disadvantage framework provides context for understanding individual inequalities that develop and build on each other over time.

### **Life Course Perspective**

Through the lens of the life course perspective, individual and group experiences are shaped by the social, historical, and cultural forces that occur over the life time (Settersten, 2006). Life course theory states that individual lives include transitions or discrete changes in roles and statuses, and trajectories or the long-term patterns of stability and change a person experiences (Elder & Kirkpatrick Johnson, 2002; Hagestad, 2003). Transitions are events where the individual experiences an exit from prior roles and statuses and enters into a new phase, for example starting kindergarten, getting a first job, or getting married. Trajectories, on the other hand, are a longer view of the life span and take into account multiple transitions (Hutchison, 2010). These terms are important in understanding the major tenets of the life course perspective.

Over time, as more longitudinal data became available to study individual and family life trajectories, scholars began to recognize several themes. First, research must recognize the context of historical time in order to comprehend human development. The societies and cultures people live in transform their lives, and the age they are when experiencing a societal change results in very different consequences for the development of their beliefs, attitudes, values, and behaviors. For example, the age of a person during the adoption of unilateral divorce laws may have influenced their attitudes toward marriage and divorce. Indeed, research suggests those who were younger during the 1970's "divorce revolution" have a higher propensity to divorce and remain unmarried (Rasul, 2003). Thus, a second theme to emerge among life course scholars is an appreciation of the importance of timing. Age is important in most societies, and social institutions, roles, and behaviors are often centered or organized around age (Settersten, 2003). What this means for researchers is that transitions in a person's life can be considered on- or off-time if society has determined a specific age or age range is associated with an event. Some individuals will be early or late in relation to the "norm" and this timing influences their life trajectory. Job loss at age 55 may result in a forced retirement that many people would consider early and "off-time." This early retirement timing, which is often due to job loss or health issues (Szinovacz & Davey, 2005; Williamson & McNamara, 2003), can have serious consequences for the individual's financial future.

Third, life course researchers appreciate that the trajectories of human lives are interdependent or linked, in particular among family members. People do not make

decisions or act in a vacuum, and the family unit is often the place where individuals experience and interpret larger historical and cultural phenomena (Hutchison, 2010). The family is a particular unit of support, and the linkages among members even extend across generations. For example, the financial successes of parents may contribute to their son's ability to attend and pay for college, ultimately providing him better job opportunities that will support his own family. Likewise, detriments and misfortunes have a real and lasting impact on family members and future generations. Finally, the life course perspective suggests that human agency, or the individual actions and personal choices taken in order to achieve goals, influences the life course. Individuals do construct their own life pathways, however, life course theorists accept that people are inevitably constrained by the historical and social circumstances that they live in (Elder, Kirkpatrick Johnson, & Crosnoe, 2003).

The life course perspective is a natural fit for studying retirement because of the theory's focus on time, process, and context (Elder, 1995). The theory leads to the assumption that employment history and family experiences influence retirement and individuals' attitudes toward it (Szinovacz & DeViney, 2000), and that linkages among spouses influence important life plans and transitions. Retirement itself is a life course transition and the event has associated expectations and preferences, and results in the beginning of a new identity (i.e., retiree) and new status in society (Moen, 1996).

The life course is also a valuable framework for studying family patterns and marital history. As mentioned above, one of the major tenets of life course theory is that the life events (e.g., marriage, childbearing, widowhood) of a person and their significant

other are interdependent. Marital histories that include a marital disruption, for example, may force individuals to plan and save for retirement alone after they previously planned for joint retirement with their spouse. Society largely believes marriage is a partnership and resources should be pooled, so divorcees and widow(er)s may discover they have a limited understanding of household finances or financial planning if previously dependent on their spouse (Burgoyne & Kirchler, 2008). Indeed, planning for retirement is partly contingent on marital status, and disruptions can influence a person's ability to financially plan for him or herself if the couple separates. Resource pooling actually diminishes among couples who are not in their first marriage (Burgoyne & Kirchler, 2008), and the preference to manage their own money may be related to experiencing challenges with the division of assets following a divorce.

A second consideration of the life course perspective that is particularly relevant to a study of marital history and retirement includes the effects that stem from *when* an event or transition occurs in one's life. The timing of events influences current choices, current transitions, and future transitions (Elder & Giele, 2009). This dissertation examines a number of ways timing influences the interrelated trajectories of work and family life.

First, the relationship between work and the timing of family formation is important for understanding a person's individual economy and ultimately their retirement security (Bianchi, Milkie, Sayer, & Robinson, 2000; Johnson & Favreault, 2004; Waite, 1995). When in life a person decides to get married and transition into a spousal role will influence when he or she decides to start working or have children. In

other words, it is assumed that the timing of family formation will affect work patterns and that work will affect family formation. The timing of an event, like marriage or childbearing, has a rippling effect on educational attainment and work history. This is particularly true for women, as presented previously. Becoming a mother is associated with a reduction in educational attainment, lifetime work history, and wages (Budig & England, 2001; Loughran & Zissimopoulos, 2008). Women who wait to have children build a greater attachment to the labor force (Pienta, 1999) though they still experience a reduction in their years of paid work and wages compared to women without children (Loughran & Zissimopoulos, 2008) and this is directly related to the time they take away from work to raise children.

Second, the timing of any marital disruptions is also a major family-life transition that has repercussions on work history. When a change in family structure occurs, individuals may need to alter their work lives. For example, Williamson and McNamara (2003) find that unplanned marital changes in mid-life result in increased labor force participation for Black men but decreased participation for White women. They conclude that for about one-third of the population, unplanned marital or disability changes in later life can disrupt trajectories and drastically change any retirement plans. Thus, the timing of disruptions also influences the degree of effects on retirement planning and saving. For example, an early life divorce occurring before the individual began retirement planning may have less of an effect than a divorce occurring mid-life. In addition, retirement timing is often a household decision (Henkens & van Solinge, 2002; Honig, 1998) and therefore, family influences on retirement will have less of an influence when a person is

unmarried. In these situations, particularly because the person is dependent solely on their own retirement resources, their finances may play a larger role in the decision to retire than for married couples.

Finally, timing's influence on the interplay of work and family life suggests that participation in work roles is made more difficult by increased participation in family roles, and vice versa (Greenhaus & Beutell, 1985). The timing of both family transitions and work transitions (e.g., new job, job loss, and promotion) influence each other and individuals' life trajectories.

The third and final life course tenet relevant to this discussion states that historical and cultural contexts define the landscape of constraints and opportunities available to individuals at any specific time. Whether long-term trends or random fluctuations, the life courses of individuals are shaped by the historical context they live in and the life stage they experience at that time (Elder et al., 2003). In terms of retirement security and planning, historical context influences the options that are available for retirement saving, the current market forces, and the unemployment rates. For example, defined contribution pensions are now more common among private sector employers (Munnell & Soto, 2007), while previous generations had defined benefit pensions if an employer-sponsored pension option was available. Historical, cultural, and market changes can reduce the resources individuals have for retirement (Bosworth & Burtless, 2010), affect expected retirement age, and influence retirement plans with a trend toward uncertainty or to continue working (Szinovacz, Davey, & Martin, 2014; Szinovacz, Martin, & Davey, 2013).

Historical circumstances and cultural context have also influenced social norms around marriage. Such changes include the appropriate age to get married, the treatment of unmarried people, and society's overall perception that marriage is "forever." For example, policy changes affecting the divorce process make it easier to get a divorce which results in increased risk of marital disruption (Stevenson, 2007). Government services and tax advantages are currently in place to benefit married people or assist unmarried widows, while little is provided to financially support divorcees, the separated, or the never married (Tamborini & Whitman, 2007). The people who grew up experiencing these changes in marital laws and marriage trends (i.e., the Baby Boomer cohort) have a notably different view of family, and the family-work life relationship than their parents' generation. The Baby Boomers also have the most complex and diverse marital histories of any previous generation, and these viewpoints play at least some role in their marital behavior.

### **Cumulative Advantage/Disadvantage**

In his classic paper, "The Matthew Effect in Science," Robert K. Merton (1968) described accumulation of advantage in the scientific world that unevenly distributed resources and rewards among more seasoned scholars, a process he argued affected the flow of new ideas and projects. Merton noticed that previously published, well known, and respected scientists had a significant advantage over new scholars; they were more likely to get additional publications, win grants, or obtain other professional resources. Observing the cumulative effects that stemmed from a socially structured allocation of resources, Merton dubbed this phenomenon the "Matthew effect," named after a quote in

the Bible. Studies on the accumulation of advantage in professional career paths exploded in the 1970's (Zuckerman, 1988).

The Matthew effect framework argues that the very nature of scientific study, a typically collaborative institution, “may serve to heighten the visibility of contributions to science by scientists of acknowledged standing and to reduce the visibility of contributions by authors who are less well-known” (Merton, 1968, p. 7). Essentially, the accumulation of advantages over time results in a concentration of resources among a few scholars within a given field, and thus the adage “the rich get richer and the poor get poorer” is observed (O’Rand, 2003). Though the Matthew effect’s linkage to time and age is clear, scholars did not explicitly analyze this relationship until two decades later.

Dannefer (1987) draws from Merton’s account of the Matthew effect and applies this concept of cumulative advantage to study aging and the life course. Cumulative advantage/disadvantage explains how different life-course processes, such as family, health, or work, increase the heterogeneity of important outcomes in later life for individuals within a birth cohort (O’Rand, 1996). The diversity that increases as people aged is a phenomenon previously attributed to outcomes of individual differences or social-psychological processes, but not of social and institutional processes (Dannefer, 1987). Dannefer argues that, in fact, social and institutional processes have a strong and lasting effect on the accumulation of advantages and disadvantages, and that the consequence of these circumstances are intensified in old age. A recent review of the cumulative advantage literature by Dannefer (2003) defines the concept of cumulative advantage/disadvantage as “the systemic tendency for interindividual divergence in a

given characteristic (e.g., money, health, or status) with the passage of time” (Dannefer, 2003, p. S327).

This theory enhances the life course perspective by explaining how factors such as linked lives and the timing of transitions promote age heterogeneity. Heterogeneity in this context is defined as “the growing variability in domains such as health, lifestyle, and socioeconomic well-being within a cohort as its members enter old age” (Pallas & Jennings, 2009, p. 212). In other words, life course study presents a theoretical basis for *what* can affect current and future choices and transitions, ultimately shaping a person’s life. Cumulative advantage/disadvantage complements the life course perspective by illuminating *how* different transitions and life trajectories affect a person’s resources and promotes inequalities. This paper will use three concepts developed from the cumulative advantage/disadvantage literature.

First, the theory recognizes the importance of early-life differences on later-life, specifically stating that differences accentuate with the passage of time and therefore early advantages or disadvantages are determinants of later life outcomes (Dannefer, 2003). Those individuals who obtain valued resources early in life, and who sustain these resources, are assumed to accumulate more advantages over the life course (Crystal & Shea, 1990). Second, cumulative advantage/disadvantage scholars argue that certain social institutions and social processes create heterogeneity by supporting some people while neglecting or even injuring others over the life course (O’Rand, 1996). This concept is particularly important for any life course study because it assumes that even if everyone starts out equal, inequalities will still emerge over time. Finally, cumulative

advantage/disadvantage recognizes the importance of interpersonal dynamics in generating or reinforcing certain differences and influencing individuals' perceptions about their environment, their own life, and their future (Ferraro & Shippee, 2009). Often described as "self-fulfilling prophecies," this concept suggests that how people perceive themselves and/or compare themselves to others affects not only the way society treats them, but how they view their own abilities and make decisions.

The first important concept that stems from cumulative advantage is that early-life differences exist and become magnified over time. Diversity and inequality among those in old age evolves from not only individual choices (i.e., lifestyle), but available resources and institutional arrangements over the life span (Dannefer, 1987). Those with early life advantages are expected to have better exposure to opportunities, while the disadvantaged are expected to have an increased exposure to risk (Ferraro & Shippee, 2009). The proposition supports this paper's argument that knowing only a person's current marital status is insufficient because disruptions exacerbate existing disadvantages. Following a particular marital trajectory through life or having a complex marital history results in the accumulation of advantages and disadvantages that may affect retirement income and wealth. Thus, marital history factors such as knowing at what age people get married, how many marriages they have had, and how previous marriages ended should enhance an understanding of retirement income inequalities.

Second, the concept of cumulative advantage/disadvantage suggests social systems generate inequality. The work of Pallas and Jennings (2009) identifies a link between an individual's class of origin and early sorting and selection mechanisms. They

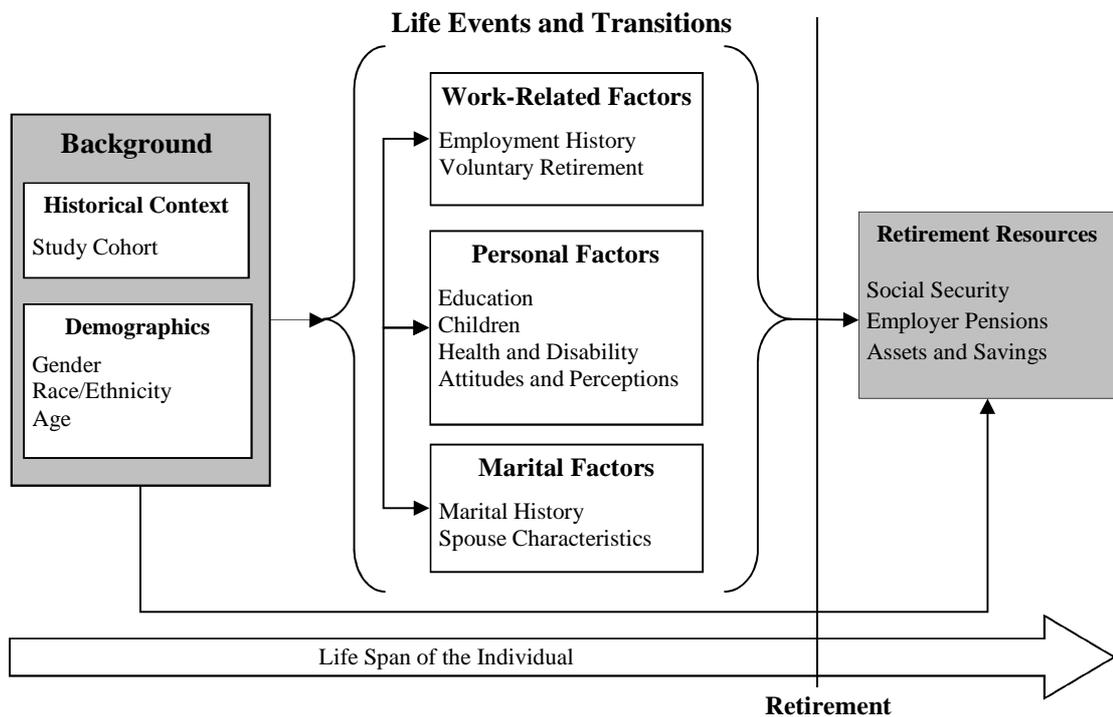
also find a relationship between class of origin and the domains of the family, education, and the economy. Just as Merton noticed with the professional career patterns of scientists, social institutions may support some groups of people while overlooking or even harming other groups. This paper considers marital status a similar form of social standing that stratifies individuals and produces inequality. The institution of marriage has rules, forms of capital (e.g., cultural, social, economic), and structural features that systematically advantage some and disadvantage others. Starting one's early adult life in a certain "marital standing" has sustained effects on outcomes over time and this cumulative process generates growing inequality (Pallas & Jennings, 2009).

Finally, cumulative advantage/disadvantage assumes that individuals make life choices based on perceptions about their environment, their own life, and their future. People consider what is possible or attainable and seek these or similar alternatives based on preference, need, or ability. Related to the "marital standing" identification previously discussed, those who perceive themselves as beneficiaries of the institution of marriage may be more likely to get and remain married. Marital history and its specific components may also influence people's perceptions about themselves and their future, which may affect their desire or capacity to save for retirement. Cumulative advantage/disadvantage suggests that the opportunities people strive for are only those that they view as attainable. Thus, if a person believes they are unhealthy relative to their peers and will not live long, they may choose to spend in the present over saving for retirement. The subjective probability of reaching retirement age may influence an

individual's entire work life and lifelong saving habits so that she may find she is ill-prepared in retirement (Hurd, Smith, & Zissimopoulos, 2004).

### **The Conceptual Framework**

The conceptual framework for this research (Figure 1) has a distinct focus on the marital life pathways of individuals in order to understand how marital relationships, transitions, and trajectories are related to retirement security. The segment on "Marital Factors" displays the importance of marital history in this research, and encompasses both marital history and spouse characteristics. A person's marital history includes *when* in life marital transitions occur, *what* form these transitions take, *how long* he or she remains in a particular status, and *how many* marital transitions occurred over the lifetime. Cumulative advantage/disadvantage theory and the life course perspective touch on specific facets of marital history, leading to a framework focused on the type, timing, duration, and frequency of marital changes. Time is a unique concept in this model, and the timing of life events and simultaneous transitions warrants attention. During a life course, the timing of a change can result in two individuals reacting to the same change (i.e., divorce) differently or can result in different outcomes. The model therefore takes into account both past and current life events when examining marital history's effect on retirement resources.



*Figure 1.* A life course model for understanding how individuals accumulate retirement income and assets.

Various demographics (i.e., age, gender, race, and cohort) are contextual factors controlled in the model. These factors are invariably interlinked and influence the type, timing, duration, and frequency of marital changes. In general, whites are more likely to get and stay married than non-whites but college-educated non-white women are more likely to marry than minority women with less education (Isen & Stevenson, 2010; Kim, 2010). Age and gender also play a role in marital history, in particular, men are less likely to be unmarried than women in mid- and late-life (Zissimopoulos et al., 2008). These background characteristics and any associated early life inequalities will influence an

individual's choices or ability to deal with transitions, as well as influence the accumulation of advantage or disadvantage throughout the life course.

As the life span proceeds (Figure 1), the model identifies "Life Events and Transitions" made up of the main characteristics being studied (i.e., work history, personal history, marital history). The model brackets these three areas of life together in order to show that each influences and constrains the other. For example, more educated and higher income workers are more likely to be married and remain married compared to less educated and lower income individuals though there are racial differences in this trend (Isen & Stevenson, 2010). Within each "Life Events and Transitions" grouping, variables related to a similar life area are expected to affect each other as well. It is also well documented that education affects health outcomes (Braveman et al., 2011; Feinstein, 1993) and furthermore, an individual's background characteristics invariably influence these relationships. The framework purposefully aims to highlight the interplay between personal background characteristics, work-related factors, personal factors, and marital factors prior to retirement. Retirement is the point in time used to draw the study sample, in order to capture the retirement income and assets before retirees can begin to "spend down." This cross-sectional design, which takes into account previous marital life events and transitions, explores marital history's association with particular income trajectories and pays specific attention to gender differences. An outline of the research objectives based on the theoretical framework and conceptual model is discussed next.

## **Research Objectives**

Core findings from the theories and literature review suggest that a person's history of marital transitions, the timing of these transitions, and the duration of specific marital statuses all have a relationship to personal finances. Findings also suggest major gender differences. Thus, the research objectives of this dissertation are to uncover whether these marital history factors are related to specific retirement resources (i.e., Social Security, pensions, and savings/assets). Further, the research will explore whether these effects differ by gender.

Objective 1: To determine whether the type of marital disruption and the frequency of marital transitions are related to retirement income and assets.

Hypothesis 1. Among the married sample, those who experienced a prior marital disruption will have less retirement income and assets than those who have been continuously married.

Hypothesis 2. Individuals with more marital disruptions will have less retirement income and assets than those who have experienced one disruption.

Hypothesis 3. The reduction in retirement income and assets associated with marital disruptions will be greater for those who experienced divorce than all other marital statuses.

Objective 2: To determine whether longer marital durations matter (i.e., those with longer marriages and those who spend more of their life being married) and whether they are related to retirement income and assets.

Hypothesis 4. Individuals who have spent a greater proportion of their lives married will have more retirement income and assets.

Hypothesis 5. Marriage stability will be positively related to retirement security, so those with longer marriages will have more income and assets than those in shorter marriages.

Objective 3: To explore the timing of a change in marital status, and determine whether the timing of marital transitions is related to retirement income and assets.

Hypothesis 6. Experiencing marriage earlier in life will have positive effects on retirement income and assets.

Hypothesis 7. People who experienced a disruption later in life will have less retirement income and assets than those who became unmarried earlier in life.

Objective 4: To determine whether the effects of marital history vary by gender.

Hypothesis 8. Women's marital history will have a stronger association with retirement income and assets than men's.

Hypothesis 9. Never married men will have less retirement income and assets and never married women will have more relative to other unmarried men and women.

## CHAPTER 4

### METHODOLOGY

#### **Data**

This study uses secondary analysis techniques based on data from the Health and Retirement Study (HRS), waves 1 through 9: 1992, 1994, 1996, 1998, 2000, 2002, 2004, 2006, and 2008. Conducted by the Institute for Social Research at the University of Michigan, the HRS is a longitudinal panel study that began in 1992 with the purpose of surveying a nationally representative sample of Americans over the age of 50. The primary sample in the HRS consists of individuals between the ages of 51 and 61 in 1992, and their spouses of all ages. The HRS surveys study participants every two years, and introduced new cohorts into the sample in 1998, 2004 and 2010. The current HRS sample consists of more than 38,000 individuals and the sample design and response rates are discussed at length elsewhere (Juster & Suzman, 1995; National Institute on Aging, 2007).

This study also uses data from the RAND HRS data files. The RAND data files are developed and maintained by the RAND Corporation, and are considered user-friendly versions of the HRS data. Certain variables from the RAND file or variables constructed from the RAND file are used in this analysis, in particular the cleaned and imputed retirement income and assets (RAND HRS Data Version M.).

## **Sample**

In order to focus on the financial security of individuals in their retirement years, the sample selection technique attempts to capture people before they begin to “spend-down” their retirement income and assets. Eligible respondents report being not retired in a given “entry wave” (i.e., 1992, 1998, and 2004) and then retiring at a subsequent wave. Respondents who identify as retired prior to joining the study or respondents who never report retiring during the study timeframe are excluded from the analysis. Retirement status is based on whether a person self-identifies as retired and is not receiving any employment income (i.e., not partially retired).

Respondents who identify their marital status as “partnered” are also excluded from analysis. The way marital history questions are asked by the HRS results in incomplete histories for respondents who state their marital status as “partnered.” For some individuals, their marital status changed to “partnered” between waves. This small number of cases (n=40) are not included in the final sample since the HRS does not differentiate between cohabitation and domestic partnership among people who transitioned into a “partnered” status.

This analysis uses data from the wave of an individual’s date of first retirement. The retirement status of individuals often changes in old age, for example someone leaves the labor force and then decides to go back to work years later. Data for each respondent in this study is counted once, at the point when the individual first identifies as retired based on the sample criteria described above, and any employment changes after that are unrelated to this study’s research goals and are ignored.

Based on the exclusion criteria above, the initial sample (n=5,272) consists of a group of retirees interviewed as close to their actual retirement date as possible. This allows for an investigation of the retirement portfolio they possess when they enter retirement. The breakdown of cases from each entry wave is as follows: of 12,521 respondents who entered in the 1992 wave, 4,506 individuals retired between 1994 and 2008; of 4,849 respondents who entered in the 1998 wave, 583 individuals retired between 2000 and 2008; of 3,330 respondents who entered in the 2004 wave, 183 individuals retired between 2006 and 2008. A brief reminder that the definition for retirement in this research project is strict; the respondent must self-identify as completely retired and not be receiving any income from employment.

Due to the number of individuals in each birth cohort who retired within the data collection timeframe, this analysis only includes the HRS Cohort (born 1931-1941) and the War Babies or WB (born 1942-1947). During the timeframe, 248 Children of the Depression (CD) and 285 Early Baby Boomers (EBB) experienced a first retirement, however this occurred after age 65 or before age 60 respectively. These retirees are not the norm for their cohort group, and including them may bias the data though arguably real trends may be missed by excluding these groups. For the purposes of this study, these cohorts are excluded from analysis, leaving a sample of 4,739 cases (3,856 HRS Cohort and 883 War Babies).

The sample also excludes proxy respondents. People with chronic health conditions and/or cognitive decline may require the use of proxy respondents, however the determination for using a proxy is often subjective and the reliability of proxy

responses is often dependent on the relationship of the proxy to the individual (Nelson, Longstreth Jr., Koepsell, Checkoway, & van Belle, 1994). The definition of sample inclusion is based on a self-reported measure of retirement status, and the main independent variables on marital history require self-reporting of past marriage information; therefore, proxy respondents are excluded. After removing the CD and EBB cohort groups and proxies from analysis, the final analytic sample contains 4,443 cases.

## **Measures**

### **Dependent Variables**

The dependent variables representing retirement security include ratio variables measured in actual dollar amounts: (1) annual income from Social Security benefits, (2) annual income from employer-sponsored pensions or annuities, and (3) total net value of non-housing financial wealth. In addition, some individuals have no income coming from Social Security and pensions, therefore additional analysis includes dummy dependent variables for these two income sources (1=has income from this source, 0=no income reported). These variables, as mentioned above, are derived from the RAND HRS data file and missing values were imputed by RAND.

Questions about income and wealth in the HRS generally follow the same pattern, where the interviewer asks the respondent whether he (or his spouse/partner) have that type of income source or wealth holding. For example, an interviewer asks about owning any shares of stock. If the respondent answers that they do own stocks, the interviewer proceeds with a question about the value of those stock holdings. One of the major benefits of using the RAND HRS data file for income and wealth variables is that they

impute missing information for these variables and impute amounts for all cases with bracketed information (i.e., answers that identify a respondent's income range, rather than exact amount). For the income and wealth dependent variables in actual dollar amounts, each is recoded into \$1,000 units and then natural logged. To reduce the influence of outliers, dependent variables are Winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentile.

In a number of cases, individuals state they are retired by the end of a study wave but do not report that they are receiving retirement income from Social Security and employer-sponsored pension benefits until the following wave. In these instances, income amounts are taken from the subsequent wave in order to account for the fact that many people do not begin claiming benefits immediately upon retirement. Using data from the next wave results in updating 973 cases for Social Security income and 789 cases for employer-sponsored pension income. Still, many individuals do not report receiving any Social Security (n=1,512) or employer-sponsored pension income (n=2,403) by this next wave. This was often due to early retirement patterns. In over half the cases related to no Social Security income, for example, the individual retired before age 62. Including dependent variables that account for both the real income amounts and dummy variables for possession of each income source will help to enhance the analysis of marital history's relationship to retirement resources.

### **Independent Variables**

The major independent variables of this study include factors that relate to marital history. Using a hierarchical regression technique, marital variables are entered into the model with increasing complexity starting with basic marital status and then adding

variables pertaining to marital history: timing, duration, and frequency of transitions. Caution is used when adding these variables because transitions and durations are closely linked together, and linked with age (i.e., adding up marital transitions and durations should total a person's age). Most marital history variables are calculated using the raw entry wave data files from 1992, 1998, and 2004. Variables computed from the raw data files include: current marital status, age at first marriage, age at first disruption, length of *first* marriage, total years married, and proportion of lifetime married. A few variables are taken from the RAND file instead of the raw data and are manipulated for this research: total marriage count, total number of divorces, total number of widowhoods, and length of *longest* marriage.

Current marital status is manually calculated in order to distinguish the separated from the divorced, and the remarried from the continuously married, something that is not done by RAND. Based on frequencies, this results in a breakdown of 4 statuses for those married at retirement: continuously married (reference), remarried after one divorce, remarried after one widowhood, remarried after multiple disruptions; and 5 statuses for those unmarried at retirement: never married, currently divorced-divorced once, currently divorced-multiple disruptions, currently widowed-widowed once (reference), and currently widowed-multiple disruptions.

Age at first marriage and first disruption are both calculated using the individual's date of birth and first marriage start and end date information. The length of first marriage is calculated by subtracting these dates (i.e., Age at first disruption – age at first marriage) for those who have experienced a marital disruption, and by subtracting age at

first marriage from current age for the continuously married. Categorical dummy variables are computed based on terciles and include: first marriage lasted between 1 and 14 years, between 15 and 29 years, 30 or more years (reference), and where applicable, first marriage = 0 years (i.e., never married). Total years of marriage are calculated by combining the length of up to four marriages to give a total number of years. The HRS does not collect information about marriages beyond an individual's fourth marriage. The variable for total years is then used to calculate a proportion variable that signifies the proportion of an individual's life (after age 15) that he or she spent married, ranging from 0 to 1.

A variable representing the type of marital status change and the timing of these transitions is calculated using age at first disruption data, and additional data that identifies the type of disruption. This series of mutually exclusive dummy variables represents the first marital disruption experienced and includes divorced under age 30, divorced between age 30 and 49, divorced at age 50 and older, widowed under age 50, and widowed at age 50 or older. In the models for married respondents, the continuously married are the reference group, while people widowed at age 50 or older are the reference category for unmarried respondents.

Calculating marital history information using the raw data files is complex. Many individuals have missing information relating to a previous marriage, conflicting date information (e.g., a new marriage occurs before the previous marriage ends), or missing information on status changes that happen between waves. Using spousal data, data from subsequent waves, and manually editing obvious coding errors (e.g., beginning and end

dates reversed) most of the marital history errors are corrected. In instances where the data cannot be corrected, the case is assigned a missing value. For example, to calculate total marriage years for someone with three marriages requires dates for all three marriages. If any dates are missing, then total marriage years for this respondent is uncertain. The case is marked as missing, and any variables computed from that information are also missing.

After calculating and correcting this information on the entry wave data, each respondent's marital history is then "updated" with information about any marital changes between waves. Marital history information is updated until the individual's year of retirement, so if an individual is widowed prior to retirement, for example, her marital history data reflects this status change. If multiple transitions happen within the same wave (e.g., widowed and remarried in the same year) then these cases are double-checked to ensure accuracy.

### **Control Variables**

Based on the conceptual framework, the control variables for this analysis are contained in the following categories: demographic characteristics, work history factors, personal health factors, and family variables. Table 1 presents all independent and control variables. Note that all variables are taken from or calculated with data from the associated wave of retirement, so a cross-sectional snapshot of each respondent's situation is used for the analysis.

### ***Work History Variables***

The study controls for work history factors by including the following four measures: years in the labor force, years of tenure with one employer, self-reported voluntary retirement, and health insurance coverage in retirement.

Total working years and longest job tenure are computed from the RAND data file. The total number of years worked is a continuous variable based on self-reported information summarizing all reported jobs including those reported retrospectively in the job history data asked at first interview. The longest job tenure is a continuous variable also computed from this data and identifies a respondent's years of tenure on the longest-held job.

Voluntary retirement is calculated using the raw HRS data files for waves 1 through 9 which asks respondents, "Thinking back to the time you retired, was that something you wanted to do or something you felt you were forced into?" Respondents can answer that retirement is something they "wanted to do," was "forced into," or "part wanted, part forced." These categories are used to create three mutually exclusive dummy variables identifying whether the respondent retired by choice, with involuntary retirement (i.e., "forced into") as the reference.

Finally, health insurance coverage in retirement is comprised of several dummy variables from the RAND data file that are not mutually exclusive: covered by Medicare, covered by previous employer's insurance, and covered by spouse's health insurance (which is only used in married models). Though the categories are not mutually exclusive, this only applies to a few individual (i.e., 285 cases report having Medicare

and employer health insurance, 7 cases report having employer health insurance and spouse health insurance). Most individuals only report having either Medicare coverage (n=1,047), employer insurance in retirement (n=1,438), spousal insurance coverage (n=704), or no coverage (n=976). As with all other variables, observations are at the time of retirement and since the majority retired before age 65, the distribution of health insurance coverage is typical.

### *Spouse and Family Variables*

Spousal variables include information about the spouse's employment status and income, and self-reported health. The spouse's work income variable is a continuous measure pulled from the RAND data file, so it includes corrections and imputations. Spouses' current earnings range from \$0 to \$600,000 with a mean of \$15,456. This variable is recoded into three mutually exclusive variables based on a descriptive analysis of earnings. Roughly half of the sample have no spouse earnings (reference group), while one quarter have been coded into low earnings (\$3,176 or less) and the remaining quarter coded into high earnings (over \$3,176). Employment status is a dummy variable from the RAND data file's recoding of the HRS question, 'Are you currently working for pay?', which allows the spouse to self-report their status. The self-reported health variable asked spouses to rate their health on a scale of 1 to 5, and has been recoded into 4 categorical variables: health excellent, health very good, health good, and health fair/poor (reference group).

Data from the RAND Family Files are used to compute the family variables, which include information on childbearing, number of children, and current co-resident

children. A series of three dummy variables identify the number of co-resident children present in the household (i.e., 0 children, 1 child, 2 or more children). Most respondents do not have children living in the household (77.0%), so the variable is recoded as a dummy variable representing the presence of resident children (1=co-resident children, 0=no co-resident children). Due to the small number of resident children, this variable is not refined by age but descriptive information shows that most of these children are over 18 years old (74.4%).

The respondent's age at the birth of their first child is used as a measure of childbearing timing. The variable is calculated using the age of the parent minus the age of the oldest biological child. Given the distribution of this variable, categorical dummy variables are calculated as follows: first time parent between ages 15 and 19, between ages 20 and 25, and age 26 or older. Finally, total number of children is calculated from the RAND file, which combines the number of living children of the respondent and spouse (i.e., includes both biological children and stepchildren). The range of total living children is from 0 to 14, with an average of 3.21 kids. This continuous variable is truncated at 6 children to restrict the distribution of the variable. The original variable has a long tail distribution with 306 cases having 7 or more children.

### ***Health Variables***

Since health status is such an important predictor of early retirement, measures controlling for physical health, functional limitations, and disability status are used in the analysis. Physical health is based on respondents' self-reported health on a scale of 1 (excellent) to 5 (poor) and, like the spouse health variable described above, is recoded

into four categorical dummies: health excellent, health very good, health good and health fair/poor (reference group).

A measure of instrumental activities of daily living, or IADL index, is computed from the RAND data's raw recodes which are as they appear in the raw HRS data files but account for skip patterns. Five variables indicate if the respondent has difficulty performing a task (0=no difficulty; 1=difficulty): using the phone, taking medications, managing money, shopping for groceries, and preparing meals. If the respondent answers "can't do" or "don't do" to the question, follow-up questions are asked about whether this is due to health or memory issues. If the respondent answers "yes," then the variable is recoded to 1=difficulty. These five variables are combined to create an IADL index measure from 0 to 5. The IADL index has a mean of 0.125, suggesting an extraordinarily positive skew. Therefore, a dummy variable representing the presence/absence of IADLs is used in the final analysis.

Disability status is represented using an ADL index, which is computed similarly to the IADL index. Six variables indicate if the respondent has difficulty with performing activities of daily living (0=no difficulty; 1=difficulty): walking across a room, dressing, bathing, eating, getting in and out of bed and using the toilet. These six variables are combined to create an ADL index measure from 0 to 6, and have a mean of 0.228 which suggests a positive skew. Thus, the final analysis uses a dummy variable for the presence/absence of ADLs.

### *Demographics*

Demographic characteristics used in the analysis include identifiers for gender (female =1, male =0), minority status (dummies for White, Black, Hispanic and other, with White as reference group), education (number of school years), cohort status (dummy for War Babies), and homeownership (own home =1, does not own home =0). Respondents' current age at retirement is coded using four mutually exclusive dummy variables: age 61 or younger, age 62 to 63, age 64 to 65, and age 66 or older (age 62 to 63 being the reference group).

Table 1. Coding descriptions for all independent and control variables used in the models.

Study Variable	Variable Type and Coding
<u>Major Independent Variables</u>	
Current and previous status	categorical dummies (married group* – continuously married <sup>†</sup> , remarried widow(er), remarried divorcee, remarried multiple marriages; unmarried group – never married, divorced once, divorced multiple marriages, widowed once <sup>†</sup> , widowed multiple marriages)
Length of first marriage	categorical dummies (0, 1-14, 15-29, $\geq 30$ <sup>†</sup> )
Length of longest marriage	categorical dummies (0, 1-9, 10-19, 20-29, 30-39, $\geq 40$ <sup>†</sup> )
Age at first marriage	categorical dummies (15-19, 20-24 <sup>†</sup> , 25-29, $\geq 30$ )
Age at first disruption	categorical dummies (15-29, 30-39, 40-49, $\geq 50$ <sup>†</sup> )
Age at first disruption by disruption type	categorical dummies (divorced $\leq 30$ , divorced 30-49, divorced $\geq 50$ , widowed $\leq 50$ , widowed $\geq 50$ <sup>†</sup> , never married, continuously married <sup>†*</sup> )
Proportion of life married	proportion (total marriage years / (current age – 15))
<u>Control Variables</u>	
Years in labor force	continuous
Years of tenure	continuous
Voluntary retirement	categorical dummies (wanted to retire, forced to retire <sup>†</sup> , partly wanted/partly forced)
Medicare insurance	dummy
Employer health insurance	dummy
Spousal health insurance	dummy*
Spouse working	dummy*
Spouse earnings	categorical dummies ( $\$0$ <sup>†</sup> , $\leq \$3,176$ , $> \$3,176$ )*
Spouse reported health	categorical dummies (excellent, very good, good, fair/poor <sup>†</sup> )*
Resident children	dummy
Age at birth of 1 <sup>st</sup> child	categorical dummies (15-19, 20-25, $\geq 26$ <sup>†</sup> )
Number of children	continuous, truncated at 6
Self-reported health	categorical dummies (excellent, very good, good, fair/poor <sup>†</sup> )
IADLs	dummy
ADLs	dummy
Female	dummy
Age at retirement	categorical dummies (55-61, 62-63 <sup>†</sup> , 64-65, 66-69)
Race/ethnicity	categorical dummies (white <sup>†</sup> , black, Hispanic, other race)
School years	continuous
War Babies cohort	dummy
Homeownership	dummy
Retirement wave	categorical dummies (wave 2 <sup>†</sup> , 3, 4, 5, 6, 7, 8, 9)

\*Spousal variables excluded from unmarried models

<sup>†</sup>Reference group

## **Analytic Strategy**

The analysis consists of a cross-sectional examination of marital history's relationship to retirement security. People retire at varying ages, although there are distinct spikes in retirement at age 62 and 65 (Gruber & Wise, 1999). For the purposes of this research, capturing the retirement income and assets individuals possess at the start of their retirement, before they have the opportunity to spend down their assets, is critical. Therefore, this analysis combines participant information from waves 1 through 9 for those individuals who experienced retirement between the years 1994 and 2008. Data management is conducted using the program IBM SPSS Statistics 21 and data analysis is conducted with STATA 12.

The study analysis occurs in three phases. First, descriptive statistics are used to describe the research sample at the time of retirement and to explore marital history, retirement income sources, demographic characteristics, and family-work variables. This is done for the entire sample, and then for married and unmarried respondents separately. The mean and standard deviation for all variables are reported.

Second, several regression models examine retirement income trends among married and unmarried groups. Linear ordinary least squares regression models are estimated to test the hypotheses on the continuous income variables for Social Security and pension/annuity, and for non-housing wealth. Binomial logistic regression models are estimated for dependent variables including the receipt of Social Security and pension/annuity (i.e., yes or no).

Third, the regression analyses are extended to include gender interaction terms. Whether or not these additional models are performed is dictated by the hypotheses outlined in Chapter 3 but in general, the purpose is to examine whether marital history's relationship to retirement income and assets vary by gender. All regression models are estimated again with gender interaction terms included. Models with significant gender interactions are rerun for men and women separately in an effort to further explain any gender effects. The dependent and independent variables used in all models are described in the text above and in Table 1.

Previous research focused on examining the financial differences between married and unmarried people at retirement, included both marital categories in analyses, and found strong relationships between marital status and retirement security. The focus of this study is to highlight any association between marital history and retirement resources, which may be lost when combining married and unmarried people in the same model. Therefore, only within-group differences are analyzed and presented. When examining retirement income, assets, and wealth, it is important to include spousal characteristics for married couples. Thus, the separation of these groups is also significant analytically, and helps to account for any misspecification in the relationships between marital history and retirement resources. For example, when looking at the number of marital disruptions a person has experienced in their lifetime, a zero in disruptions for a currently married person is distinctively different from a zero for someone who is never married. Separate models for married people and for unmarried people should help with this and other similar life history data issues.

## **Missing Data and Survey Design**

The dependent variables and control variables have very few missing data. For dependent variables on retirement income sources and assets, imputed variables are taken directly from the RAND data file. For controls, additional information available in the data is used to account for missing information (e.g., age at birth of first child is changed from missing to zero for those with no biological children). This results in very few missing values on the control variables. For those variables with a noticeable amount of missing data, often the skip patterns vary between waves and need to be reconciled. For example, when computing the ADL and IADL indexes, a skip pattern in Wave 2 is identified that accounts for the majority of respondents with missing information. Due to changes in the skip patterns across interviews, certain questions about ADLs and IADLs were omitted in Wave 2 depending on the respondent's answers to preceding questions. Therefore, this missing information was checked and recoded as 0 (i.e., no difficulty).

Some missing data is found among the major independent variables measuring marital history. For any missing information on marital history variables, marital data from previous or subsequent waves are used to fill in missing information where possible. The majority of missing information is filled in by using data from other waves. For those variables with a high number of missing, most often the wording of questions or the skip patterns vary between waves. This is explored, documented, and accounted for when updating the missing information. When missing marital history information cannot be reconciled, these respondent observations are excluded from the analysis.

A comparison of complete cases versus cases where missing data cannot be resolved is conducted using Bonferroni adjustments and helps to determine potential limits to the generalizability of findings. Cases with missing information on at least one predictor/covariate are identified and compared to those with no missing information. Chi-square results indicate that the average number of missing data is significant for the nominal covariates of race, homeownership, and marital status. Using Independent T-tests on continuous variables shows that missing data is significant on education, total years married, total years worked, and number of living children. Specifically, those with missing data are minorities, non-homeowners, and currently unmarried. They have less education, fewer years married, fewer years worked, and fewer children than those without missing information.

Adjustments are made for the survey design in the analysis. The sample design of most surveys, including the HRS, involves design features such as clustering, stratification, and differential selection probabilities (i.e., weighting). In stratified sampling, for example, the population is partitioned into groups or “strata” based on characteristics (e.g., geographic location) before selecting a sample of the population for study. This technique has the potential to bias the analyses. Known as a “sample survey design effect,” this potential bias can be accounted for using model adjustments that take into account the HRS’ complex sample designs (University of Michigan, December 2008). These techniques are available in the STATA 12 package and are used in this research.

Sampling weights are not applied in the study analyses. Regressions estimated with weighted and unweighted data yield similar results; thus using unweighted data is preferable because these results will have smaller variance (Winship & Radbill, 1994).

### **Sample Characteristics**

Mean and standard deviations of the independent variables, representing respondents' characteristics at the time of retirement, are shown in Table 2. This table presents data for both the total sample, and a breakdown by married and unmarried subsamples. Among currently married respondents, 79.2% are non-Hispanic White, 11.7% are Black, 7.4% are Hispanic, and 1.7% are of another race. Half (50.2%) are women, with a mean age of about 62 and mean years of education at 12.6 years. Homeownership for married respondents is extremely high at 91.6%. On average, these respondents were about 23 years old when experiencing the birth of their first child. They currently have 3.4 living children, and over three-fourths have no children residing in the home (77.2%). The majority of married respondents self-report their health as being "good" or better (75.4%), while about a quarter report having fair/poor health (24.6%). The presence of ADLs and IADLs are 10.8% and 7.4% respectively. Married individuals' mean total years worked before retirement is 36.7 years, with a longest job tenure of 20.9 years on average. The majority of married respondents' retirement is voluntarily or partially voluntary (72.2%), while over a quarter (27.8%) state they did not voluntarily retire. Over one-third (38.3%) have employer-provided insurance that covers them in retirement, and 27.2% have Medicare coverage. Only 21.2% are covered by their spouse's health insurance. In terms of spouse characteristics, 43% have a spouse still in

the labor force and the self-reported health of spouses is similar to that of the respondents, with 77.7% in “good” or better health and 22.3% reporting fair/poor health. The mean proportion of lifetime spent married is 0.81, with the longest marriage being on average 35.6 years. The mean age at first marriage is about 23 years old, and the mean age at first disruption for those who experienced becoming unmarried is about 35 years old.

For the sample of currently unmarried respondents, 66.3% are non-Hispanic White, 25.2% are Black, 6.9% are Hispanic, and 1.7% are of another race. The majority (70.5%) are women, with a mean age of about 63 and mean years of education at 12.6 years. Homeownership for unmarried respondents is lower than the married, but still represents the majority (69.7%). On average, unmarried respondents experienced the birth of their first child at 22 years old. They currently have 2.7 living children and most do not report having any resident children (76.4%). The majority self-report their health as being “good” or better (68.2%), while about a third report having fair/poor health (31.8%). The presence of ADLs for unmarried respondents is 15.3% and the presence of IADLs is 11.2%. On average, the total years worked before retirement is 36.9 years and the longest job tenure is 19.6 years. Many report a voluntarily retirement or state that their retirement is partially voluntary (64.7%), while over a third (35.3%) did not retire voluntarily. About 40.2% have employer-provided insurance and 37.4% have Medicare coverage. On average, the proportion of unmarried respondents’ lifetime spent married is 0.46 and the length of longest marriage is 20.1 years. The mean age at first marriage is about 22 years old, and the mean age at first disruption is about 43 years old.

Table 2. Descriptive summary of sample characteristics (not weighted) by married or unmarried status (% unless otherwise noted)

	Total Sample <i>N</i> =4,443	Married at Retirement <i>n</i> = 3,278	Unmarried at Retirement <i>n</i> = 1,165
White	75.7	79.2	66.3
Black	15.3	11.7	25.2
Hispanic	7.3	7.4	6.9
Other race	1.7	1.7	1.7
Age (mean) (SD)	62.2 (4.3)	61.9 (4.3)	63.1 (4.3)
Female	55.6	50.2	70.5
Education (mean) (SD)	12.6 (2.9)	12.6 (2.9)	12.6 (2.8)
Homeownership	85.7	91.6	69.7
Age at birth of first child (mean) (SD)	22.6 (5.0)	22.7 (4.9)	22.3 (5.2)
Number of living children (mean) (SD)	3.2 (2.0)	3.4 (2.0)	2.7 (2.1)
No resident children	77.0	77.2	76.4
Respondent's health excellent	13.1	14.0	10.4
Respondent's health very good	30.1	31.4	26.7
Respondent's health good	30.3	30.0	31.2
Respondent's health fair/poor	26.5	24.6	31.8
Presence of ADLs	12.0	10.8	15.3
Presence of IADLs	8.4	7.4	11.2
Longest job tenure in years (mean) (SD)	20.5 (10.6)	20.9 (10.6)	19.6 (10.3)
Total years worked (mean) (SD)	36.7 (11.8)	36.7 (12.0)	36.9 (11.5)
Voluntary retirement	62.5	64.6	56.6
Retirement not voluntary	29.8	27.8	35.3
Retirement part voluntary part involuntary	7.8	7.6	8.1
Medicare coverage	30.0	27.2	37.4
Employer insurance coverage	38.8	38.3	40.2
Spouse insurance coverage ( <i>N</i> =3,274)	21.2	21.2	-
Spouse working ( <i>N</i> =3,105)	43.0	43.0	-
Spouse's health excellent ( <i>N</i> =3,109)	14.5	14.5	-
Spouse's health very good ( <i>N</i> =3,109)	33.6	33.6	-
Spouse's health good ( <i>N</i> =3,109)	29.6	29.6	-
Spouse's health fair/poor ( <i>N</i> =3,109)	22.3	22.3	-
Proportion of lifetime married (mean) (SD)	0.7 (0.2)	0.81 (0.1)	0.46 (0.3)
Length of longest marriage (mean) (SD)	31.4 (12.8)	35.6 (9.6)	20.1 (13.4)
Age of first marriage (mean) (SD)	22.4 (5.1)	22.5 (5.1)	22.3 (5.2)
Age at first disruption (mean) (SD)	39.2 (12.6)	34.7 (10.3)	43.3 (13.0)

## CHAPTER 5

### RESEARCH RESULTS

This section begins with a brief descriptive analysis of the marital history characteristics of the sample by gender. Then multivariate regression results are presented by dependent variable (i.e., Social Security, employer-sponsored pensions, and non-housing wealth) and are discussed separately for married and for unmarried respondents for each retirement resource. Gender differences are explored throughout and the section on regression results concludes with a brief description of the significance of control variables.

#### **Descriptive Statistics**

The current marital status and marital history characteristics of men and women are presented in Table 3. Given that the analysis is always separated by married or unmarried status, the table distinguishes between these two marital samples and displays the percentages and chi-square test results for each of the marital history characteristics by gender.

For the married sample, it appears that married men are more likely to have a complex marital past than married women. Men have marital more disruptions and then remarry more than women. Compared to women they also experience their first disruption more often in mid-life, and have shorter marriages. Approximately 45 percent

of married women can state that their marriage lasted 40 years or more. This is only true for 34 percent of married men, and the gender difference in length of longest marriage is statistically significant,  $\chi^2(4, N = 3,278) = 42.38, p < .001$ . Men may be experiencing shorter marriages because they are marrying at older ages than women; about 34 percent are entering into their first marriage after age 24. In contrast, the vast majority of women (87%) are married by this point in their lives, and this relationship between age at first marriage and gender is significant,  $\chi^2(3, N = 3,276) = 418.55, p < .001$ . Remarried men also appear to go through their first marital disruption at later ages than women. Over one-third of men experienced their first disruption at age 40 or older, while only about one-quarter of remarried women experienced their disruption this late in life,  $\chi^2(4, N = 3,276) = 9.82, p = .02$ . For the currently married sample therefore, women get married earlier in life and stay married longer than men, and consequently spend a greater proportion of their life being married. Compared to married women, married men have more unstable marital pasts though the first column in Table 3 with married and unmarried group characteristics combined suggests a selection effect. According to the percentages for all respondents, 46 percent of women experience a marital disruption compared to 38 percent of men. This difference is largely due to widowhood. Women are less likely to remarry than men, so women with shorter marriages due to marital disruptions are concentrated in the unmarried sample.

For the currently unmarried sample, 63 percent of women have only one marriage in their lifetime compared to 56 percent of men. Indeed, unmarried men are twice as likely to have three or more marriages compared to unmarried women. The proportion of

unmarried men who are never married is also much higher than for unmarried women (18% versus 12%). The relationship between number of marriages and gender is significant,  $\chi^2(4, N = 1,161) = 18.88, p < .001$ . In addition, there are differences between unmarried men and women with regard to the type of disruption experienced. For unmarried men, the largest group is those who have been divorced once (36%), followed by those who experienced multiple past disruptions (27%). In contrast, two thirds of unmarried women are widowed (32%) or divorced (31%) from their first marriage. This relationship between the type of disruptions and gender is significant,  $\chi^2(3, N = 1,165) = 20.68, p < .001$ . The length of longest marriage category also differs significantly by gender,  $\chi^2(5, N = 1,165) = 12.74, p = .03$ . A little over one-fifth of unmarried women are either never married or did not experience a marriage lasting 10 years; for unmarried men, this group totals one-third. For the unmarried sample, there is a significant gender pattern for the age at first marriage that is very similar to the pattern experienced by the married sample. Essentially, women are marrying at younger ages than men and 85 percent enter into their first marriage before age 25. In contrast to the married sample, there are no significant differences between unmarried men and women's age at first marital disruption. For the unmarried sample, therefore, men have a more complex marital history than women; men experience multiple marriages more often and are more likely to be divorced or never married.

Nevertheless, this descriptive data suggests that the most predominant pattern of marital history, regardless of current marital status, is to be married only one time (68% of men, 71% of women). Most currently married men and women are continuously

married. Among the unmarried sample, most are divorced or widowed from their one previous marriage. This descriptive analysis of marital history characteristics suggests that women are married longer and experience fewer disruptions, but men remarry more often after widowhood or divorce compared to women. Thus, a potential selection effect may place women with complex marital histories into the unmarried sample by the time of their retirement. There is also the possibility of a selection effect due to differential survival, meaning that men have the potential to remarry more often because there are more women than men and the ratio only increases as people age (de Graaf & Kalmijn, 2003; Gelissen, 2004).

Table 3. Distribution of marital history characteristics by gender (percentages, N=4,443)

	All Respondents		Married Sample		Unmarried Sample	
	Men (n=1,970)	Women (n=2,473)	Men (n=1,633)	Women (n=1,645)	Men (n=337)	Women (n=828)
<b>Total number of marriages</b>						
No marriages	3.0	4.0	n/a	n/a	17.8	12.0
One marriage	67.6	70.6	70.5	74.7	55.5	63.2
Two marriages	22.3	20.7	22.8	20.3	18.4	20.9
Three or more	7.1	4.7	6.7	5.0	8.3	4.0
	$\chi^2 = 20.83^{**}$		$\chi^2 = 10.80^*$		$\chi^2 = 20.86^{**}$	
<b>Number &amp; type of disruptions</b>						
No disruptions	62.2	54.0	70.6	75.1	17.8	12.0
Divorced once	22.0	21.3	19.8	16.6	35.6	31.0
Widowed once	5.7	13.0	2.8	3.3	19.9	32.3
Multiple disruptions	10.1	11.6	6.8	4.9	26.7	24.7
	$\chi^2 = 76.70^{**}$		$\chi^2 = 8.58^*$		$\chi^2 = 18.88^{**}$	
<b>Length of longest marriage</b>						
Never married	3.0	4.0	n/a	n/a	17.8	12.0
Less than 9 years	3.4	4.7	1.0	1.5	14.8	10.9
10 to 19 years	9.7	12.4	7.0	5.8	21.1	24.9
20 to 29 years	19.8	17.9	19.0	14.4	22.3	24.4
30 to 39 years	35.1	28.8	38.8	33.7	17.8	19.7
40 years or more	29.1	32.2	34.2	44.7	6.2	8.2
	$\chi^2 = 34.78^{**}$		$\chi^2 = 42.38^{**}$		$\chi^2 = 12.74^*$	
<b>Age at first marriage</b>						
19 or younger	12.7	41.2	12.3	41.3	13.4	40.8
20 to 24	52.8	45.0	54.0	45.6	46.4	44.2
25 to 29	23.9	8.8	24.0	8.7	24.3	8.8
30 or older	10.6	5.0	9.7	4.4	15.9	6.2
	$\chi^2 = 520.02^{**}$		$\chi^2 = 418.55^{**}$		$\chi^2 = 103.62^{**}$	
<b>Age at first disruption</b>						
29 or younger	27.3	28.3	31.2	40.8	15.9	18.6
30 to 39	30.2	26.5	35.1	31.5	24.4	22.8
40 to 49	20.9	22.4	23.1	20.0	18.5	24.3
50 or older	21.6	22.8	10.6	7.7	41.3	34.4
	$\chi^2 = 5.52$		$\chi^2 = 9.82^*$		$\chi^2 = 6.62$	

\*\* indicates significant gender difference at the 0.01 level

\* indicates significant gender difference at the 0.05 level

## **Regression Results**

Results from both binomial logistic regressions and linear ordinary least squares regressions models test the associations of marital status and history with financial retirement resources. Binomial regressions examine the difference between respondents who did (=1) and did not (=0) receive a Social Security or pension benefit within the first few years of retirement. Linear regressions then examine the differences in the amount received for respondents who possess these income sources. This analytic strategy explores whether marital history has a relationship to the receipt of retirement benefits as well as the actual dollar amount. When analyzing non-housing wealth only linear regressions are performed to study differences in amount.

Results for Social Security income are discussed first, and gender differences are presented. Both gender interaction terms and separate models for men and for women are used to disentangle any significant findings. Next, the results for employer-sponsored pension income are shown, and gender differences are explored. The section continues with an analysis of the amount of non-housing wealth owned at retirement, again with and without gender interaction term. Finally, the regression results section concludes with a brief discussion of the significant control variables.

The presentation of regression results that follows will include sets of marital history variables. Correlation analysis reveals a strong association between the proportion of lifetime married and the length of longest marriage ( $r = .86, p < .01$ ), and between the number of marriages and past disruptions (e.g., marriage count and total number of divorces ( $r = .78, p < .01$ )). The final sets of marital history variables are designed to

exclude highly correlated variables in the analysis while still accounting for a variety of marital history factors. The first set includes the features of marital type, frequency of disruptions, and first marriage duration. Current marital status is a complex marital status variable that incorporates both current marital type and previous marital disruptions. For the married sample, current marital status categories include remarried after a divorce, remarried after widowhood, remarried after multiple past disruptions, and the reference group continuously married. For the unmarried sample, these categories include never married, divorced from first marriage, divorced after multiple marriages, widowed after multiple marriages, and the reference group widowed from first marriage. As mentioned, this set of marital history variables also includes length of first marriage (i.e., never married, <15 years, 15-29 years, 30+ years – reference group).

The second set of marital history variables includes the features of disruption type, timing, and longest marriage duration. A group of categorical dummy variables incorporates both the type of disruption experienced and the timing of the disruption in the life course. This variable is specifically referring to a respondent's first disruption, and subsequent disruptions are not represented. For both the married and unmarried samples, the categories are the same but the reference groups are different: divorced under 30, divorced between 30 and 49, divorced 50 or older, widowed under 50, widowed 50 or older (unmarried sample reference group), and continuously married (married sample reference group, excluded in the unmarried model). For this variable, a never married category is also included in the unmarried models. The other variable in

the second set represents length of longest marriage (i.e., never married, <10 years, 10-19 years, 20-29 years, 30-39 years, 40+ years – reference group).

Proportion of lifetime married, given its strong correlation to an individual's marital history, is also tested but separately from the other marital history variable sets described above. Models performed on the proportion of lifetime spent married variable include only this marital history factor and all control variables. The following discussion of results focuses on these aforementioned marital history variables and gender. All control variables and their significance are summarized at the end of the chapter. Note that the marital history factor, age at first marriage, is excluded from the final analysis because it is not significant in any of the initial variable testing and is highly correlated to other marital history characteristics.

The literature review and conceptual framework from the previous chapter guide this analysis. Ten hypotheses are derived from this work (see Chapter 3) and they explore three general research questions: Do the frequency and type of marital transitions relate to retirement resources? Does marital duration have any relationship? Does the timing of transitions have any relationship? An additional research question investigates whether these relationships vary by gender. Models testing these components of marital history and related gender interactions are performed for each income source (i.e., Social Security, employer-sponsored pensions, and non-housing wealth) and the results are described in detail below.

## **Social Security Benefits**

### ***Married Respondents***

For married respondents who are age 62 or older, I first estimate whether receiving Social Security benefits is associated with marital history (Table 4). Results suggest that marital history has a relationship to the probability of receiving a Social Security benefit in the unadjusted models (i.e., basic model with no control variables), but there are no significant relationships present in the fully-adjusted models (i.e., model containing all control variables) or the gender interaction models (i.e., model containing all control variables and gender interaction terms). Investigating differences among married people who do receive a benefit, however, reveals a relationship between marital history and Social Security income amount. These results are presented by study hypothesis below and can be viewed in Table 5.

The first set of hypotheses explores whether marital status and frequency of disruptions are associated with Social Security income. Hypothesis 1 states that among the married, those who experience a prior marital disruption will have less retirement income than those who have been continuously married. Instead, remarried people with one prior widowhood have more Social Security income than the continuously married ( $b = .15, p = .01$ ), though additional tests indicate that the group of dummy variables representing the detailed marital status of currently married respondents may not matter, all else being equal ( $F(3, 50) = 2.42, p = .08$ ). This finding is in the opposite direction than hypothesized. There is no support for Hypothesis 2 (i.e., multiple disruptions will be

associated with less Social Security income) or for Hypothesis 3 (i.e., married individuals who experienced a prior divorce will have less Social Security income).

The next set of hypotheses proposes that marriage duration is positively related to retirement security. Specifically, Hypothesis 4 states that being married for a greater proportion of one's lifetime is associated with more Social Security income, and Hypothesis 5 states that longer marriages are associated with more income. Though a positive relationship is observed for the longest marriage length variables in the unadjusted models, there are no significant relationships observed in the fully-adjusted models. Although these coefficients are not significant, a significant Female X Length of Marriage interaction is indicated in the gender interaction model; however, the results are in the opposite direction than hypothesized.

Figure 2 presents a graphical representation of the significant interaction between gender and length of longest marriage. The relationship between length of longest marriage and Social Security income is curvilinear for women, and this relationship is not present for men. As indicated in Table 5 and shown in the figure, married women whose longest marriage lasted between 10 to 19 years and between 20 to 29 years are receiving more in Social Security benefits than women with a marriage that lasted 40 years or longer. The relationship, however, may not matter based on the result of the joint F test that indicates the group of dummy variables representing longest marriage is not significant,  $F(4, 49) = 1.90, p = .13$ .

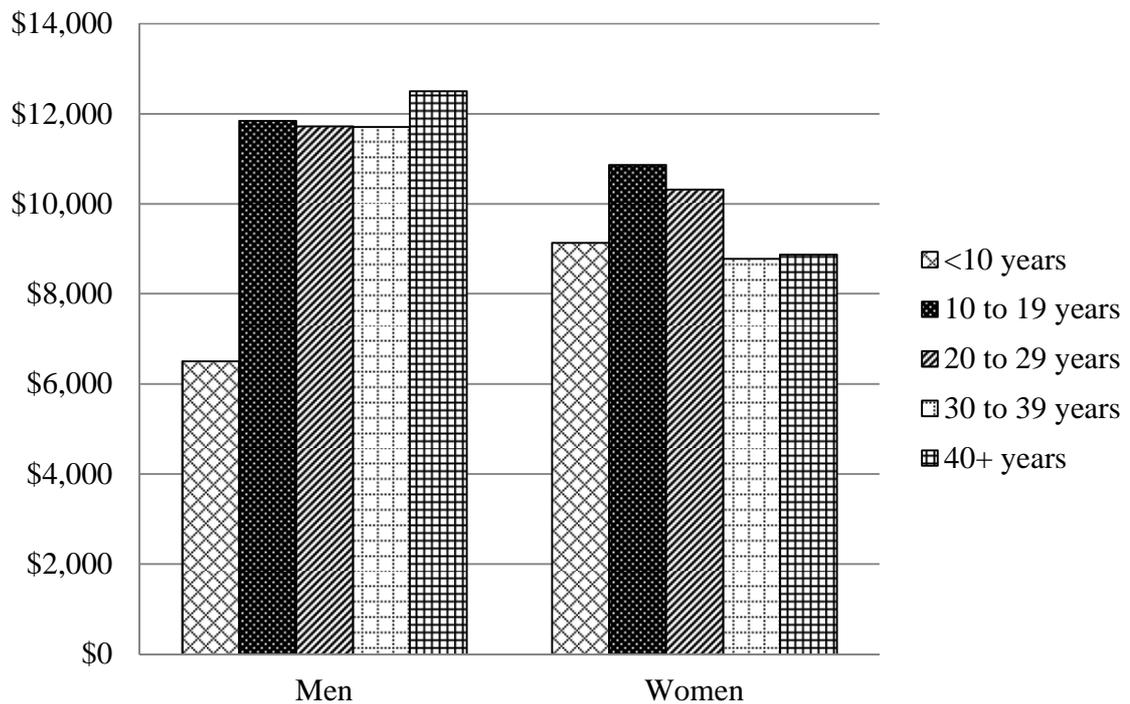


Figure 2. Estimated value of Social Security income for married respondents by gender and length of longest marriage. Estimated based on the gender interaction model shown in Table 5. Reference group: Longest marriage lasting 40 years or more.

Analysis of the relationship between the proportion of lifetime spent married and Social Security income supports the gender-interaction result above (Table 6). The fully-adjusted model suggests there is no relationship between lifetime married and Social Security income; however, there is a significant interaction for Female X Lifetime Married ( $b = -.76, p < .001$ ). Predicted values are calculated for men and women at specific proportions of lifetime spent married (i.e., 0%, 20%, 40%, 60%, 80%, and 100%) in order to present this interaction graphically (see Figure 3). Social Security income is positively associated with the proportion of a currently married man's lifetime spent married, and this result is in the expected direction (Hypothesis 4). The opposite

relationship, however, is observed for women. The proportion of a currently married woman's lifetime spent married is negatively related to her Social Security income amount. The relationship is statistically significant,  $F(2, 49) = 8.50, p < .001$ .

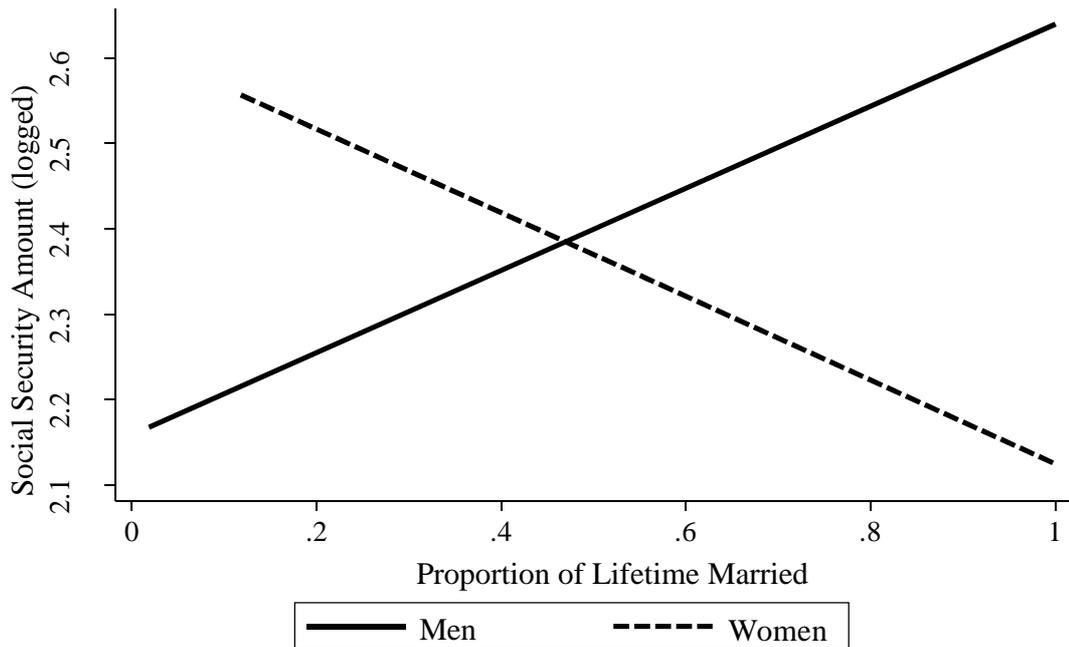


Figure 3. Predicted values of married respondents' Social Security income by the proportion of lifetime married and gender. Estimated based on the gender interaction model shown in Table 6.

Addressing the final marital history characteristic, disruption timing, Hypothesis 7 proposes that a disruption in later life will result in less retirement income than a disruption occurring earlier in life. The fully-adjusted model indicates that married people who experienced widowhood under age 50 have more Social Security income than the continuously married ( $b = .13, p = .04$ ). Additional testing, however, reveals that the

group of dummy variables representing disruption timing is not significant,  $F(5, 48) = 1.38, p = .25$ , and further analysis switching the reference group indicates that remarried people who experienced widowhood before age 50 are no different than the other remarried groups. This suggests that the timing of marital disruptions is not related to Social Security income for currently married people.

In summary, this analysis finds no relationship between married respondents' marital history and whether they receive Social Security benefits. The amount of Social Security income they are entitled to, however, may be related to their marital history. Marriage duration, measured by the proportion of one's lifetime spent married and by marriage length, has a relationship to Social Security income that is moderated by gender. In fact, these findings refute Hypothesis 8, which suggests that marital disruptions and a complex marital history will be negatively related to women's income more than men's. This study suggests that length of marriage has a negative relationship to currently married women's Social Security income. The results also suggest that remarried widow(er)s have more Social Security income compared to the continuously married. A test of the joint significance of the group of dummy variables representing marital history, however, suggests this outcome may be unreliable.

Table 4. Binomial logistic regressions for Social Security receipt for married respondents (odds ratios).

	All Married Respondents			Gender-Specific Models	
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only
SET OF VARIABLES: MODEL 1					
Remarried – one divorce	2.304 **	1.856	1.603	1.664	2.595
Remarried – one widowhood	1.509	1.051	0.782	0.533	2.550
Remarried – multiple disruptions	2.651 +	1.088	0.756	0.875	4.315
1 <sup>st</sup> marriage <15 years	0.410 *	0.658	0.888	0.992	0.425
1 <sup>st</sup> marriage 15-29 years	0.706	1.004	0.962	1.016	1.313
Female	0.924	1.113	1.059	n/a	n/a
Age 64-65		2.064 *	2.074 *	2.138 *	1.656
Age 66 and older		3.589 *	3.614 *	4.356	1.701
Female x remarried divorce			1.625		
Female x remarried widowhood			2.310		
Female x remarried multiple			5.126		
Female x 1 <sup>st</sup> marriage <15 years			0.395		
Female x 1 <sup>st</sup> marriage 15-29 years			1.229		
N	1,937	1,641	1,641	936	696
F	1.82	3.35 *	2.55	7.13 ***	7.67 ***
SET OF VARIABLES: MODEL 2					
Longest marriage < 20 years <sup>†</sup>	0.777	0.743	0.907	1.013	0.955
Longest marriage 20-29 years	0.525 *	0.840	0.965	0.985	0.861
Longest marriage 30-39 years	0.745	1.037	1.252	1.284	1.060
Divorced young (< 30)	1.238	1.031	1.089	1.339	0.939
Divorced mid-life (30-49)	2.159 *	1.831	1.484	1.452	3.169
Widowed under 50	2.714	1.239	1.043	0.906	1.759
Divorced/widowed late-life (50+) <sup>†</sup>	1.267	1.450	1.085	0.997	1.052
Female	0.866	1.122	1.258	n/a	n/a
Age 64-65		2.056 *	2.040 *	2.165 *	1.599
Age 66 and older		3.643 *	3.695 *	5.384 +	1.664
Female x Longest < 20 years <sup>†</sup>			0.647		
Female x Longest 20-29 years			0.707		
Female x Longest 30-39 years			0.552		
Female x Divorced < 30			0.995		
Female x Divorced 30-49			2.010		
Female x Widowed under 50			1.542		
Female x Disruption at 50+ <sup>†</sup>			1.020		
N	1,947	1,649	1,635	944	682
F	1.24	2.98 *	1.55	9.39 ***	8.16 ***

Reference groups: Continuously married, first marriage 30+ years, longest marriage 40+ years, age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, spouse's health and current employment, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

<sup>†</sup>Note: Due to few observations and collinearity issues, some categorical dummy variables are combined for the binomial models (i.e., longest marriage <10 years and 10-19 years, divorced in late-life and widowed in late-life).

Table 5. Linear OLS regressions for Social Security income for married respondents (coefficients).

	All Married Respondents						Gender-Specific Models			
	No controls except gender		Full model, all controls		Full + gender interactions		Men only		Women only	
SET OF VARIABLES: MODEL 1										
Remarried – one divorce	0.092	+	0.027		0.008		-0.011		0.041	
Remarried – one widowhood	0.128	**	0.147	**	0.119		0.122		0.177	
Remarried – multiple disruptions	0.103		0.064		0.085		0.062		0.036	
1 <sup>st</sup> marriage <15 years	-0.086		-0.014		-0.056		-0.042		0.059	
1 <sup>st</sup> marriage 15-29 years	-0.094	*	-0.030		-0.088	+	-0.078		0.042	
Female	-0.354	***	-0.276	***	-0.321	***	n/a		n/a	
Age 64-65			0.011		0.010		0.027		-0.026	
Age 66 and older			0.031		0.031		0.050		-0.007	
Female x Remarried divorce					-0.006					
Female x Remarried widowhood					0.025					
Female x Remarried multiple					-0.098					
Female x 1 <sup>st</sup> marriage <15 years					0.146					
Female x 1 <sup>st</sup> marriage 15-29 years					0.183	+				
N	1,782		1,512		1,512		864		648	
F	59.59	***	30.62	***	25.84	***	25.29	***	50.89	***
R-Squared	0.144		0.307		0.311		0.210		0.291	
SET OF VARIABLES: MODEL 2										
Longest marriage < 10 years	-0.382	*	-0.367		-0.653	+	-0.647	+	-0.056	
Longest marriage 10-19 years	-0.044		0.046		-0.054		-0.023		0.123	+
Longest marriage 20-29 years	-0.083	+	0.008		-0.065		-0.049		0.066	
Longest marriage 30-39 years	-0.069	*	-0.034		-0.066	+	-0.049		-0.073	
Divorced young (< 30)	-0.001		0.002		-0.015		-0.036		0.079	
Divorced mid-life (30-49)	0.116	**	0.012		0.036		0.013		0.017	
Divorced late-life (50+)	0.082		0.044		0.024		0.019		0.288	*
Widowed under 50	0.079		0.129	*	0.115		0.105		0.115	
Widowed late-life (50+)	0.174	*	0.123		0.069		0.097		0.266	*
Female	-0.359	***	-0.280	***	-0.339	***	n/a		n/a	
Age 64-65			0.011		0.008		0.022		-0.018	
Age 66 and older			0.034		0.030		0.051		-0.006	
Female x Longest < 10 years					0.682	+				
Female x Longest 10-19 years					0.256	*				
Female x Longest 20-29 years					0.216	*				
Female x Longest 30-39 years					0.056					
Female x Divorced < 30					0.039					
Female x Divorced 30-49					-0.081					
Female x Divorced 50+					0.194					
Female x Widowed under 50					-0.053					
Female x Widowed 50+					0.146					
N	1,792		1,520		1,520		872		648	
F	44.02	***	28.84	***	12.50	***	12.63	***	17.16	***
R-Squared	0.153		0.310		0.319		0.221		0.299	

Reference groups: Continuously married, first marriage 30+ years, longest marriage 40+ years, age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, spouse's health and current employment, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*, <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 6. Linear OLS regressions for Social Security income for married respondents; Proportion of lifetime married model (coefficients).

	All Married Respondents			Gender-Specific Models	
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only
SET OF VARIABLES: MODEL 3					
Proportion of lifetime married	0.139 +	0.090	0.396 **	0.383 *	-0.266 **
Female	-0.362 ***	-0.282 ***	0.345 *	n/a	n/a
Age 64-65		0.009	0.009	0.031	-0.027
Age 66 and older		0.024	0.023	0.059	-0.026
Female x lifetime married			-0.764 ***		
N	1,764	1,498	1,498	859	639
F	201.78 ***	33.27 ***	26.95 ***	16.58 ***	19.67 ***
R-Squared	0.148	0.311	0.321	0.221	0.289

Reference group: Age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, spouse's health and current employment, childrearing patterns, number of living children, resident children, and wave of retirement.

<0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

### *Unmarried Respondents*

This section addresses whether marital history has any relationship to Social Security income for unmarried respondents who are age 62 or older. For the unmarried sample, the analysis examining the association between marital history and the receipt of Social Security benefits suggests there is only one relationship (Table 7). The only significant relationship to emerge pertains to current marital status. Widow(er)s with multiple previous marriages have higher odds of receiving Social Security benefits compared to those widowed from their first marriage (OR = 4.87,  $p = .02$ ). When estimating the predicted probabilities, widowed respondents with a more complex marital history have a greater probability of receiving a Social Security benefit (probabilities of 0.98 versus 0.93 for widowed after multiple marriages compared to widowed from first marriage). Further analysis reveals that those widowed after multiple marriages have a higher probability of receiving a Social Security benefit compared to individuals in all unmarried status groups. Never married individuals have the lowest predicted probability of receiving a Social Security benefit at 0.87. However, the joint F test for the group of dummy variables representing the detailed marital status of currently unmarried respondents is not significant,  $F(4, 49) = 2.11, p = .09$ . Hypothesis 2, which states that more disruptions are negatively related to receiving Social Security, may be refuted for the currently widowed. In support of Hypothesis 9, the never married population is the unmarried group with the lowest probability of receiving Social Security. Thus, marital status may have a substantive relationship to the receipt of Social Security benefits but

this relationship is not statistically significant when examining the within group differences of unmarried individuals.

Among those who do receive a Social Security benefit, marital history is related to the amount they receive (Table 8). The first set of hypotheses examines the association between marital status as well as the frequency of disruptions and an unmarried person's Social Security income. Significant relationships between detailed marital status and Social Security income are present in the unadjusted models but no significant relationships are observed when the models include control variables. While there are no marital history relationships in the fully-adjusted models, a significant Female X Marital Status interaction is identified. As indicated in Table 8 and shown in Figure 4, the negative sign of the interaction term suggests that being currently divorced after multiple past marriages is more detrimental to women's than men's Social Security income. Divorced women who were married multiple times have less Social Security income than widows who were married once, and the group of dummy variables representing detailed marital status is significant,  $F(4, 49) = 2.61, p = .05$ .

Gender-specific models (Table 8) support the finding that female divorcees after multiple past marriages have significantly less Social Security income compared to women widowed once ( $b = -.19, p = .01; F(4, 48) = 4.58, p = .003$ ). Additional analysis with divorced after multiple marriages as the reference group indicates that these women are statistically worse off than all other unmarried groups except never married women. These findings support Hypothesis 3, which states that marital history's negative relationship to retirement income will be more pronounced for those who experienced

divorce. The results suggest, however, that this only applies to divorced women with multiple past disruptions. Thus, Hypothesis 2 (i.e., that more marital disruptions will relate to less income) is also supported for divorced women's Social Security income.

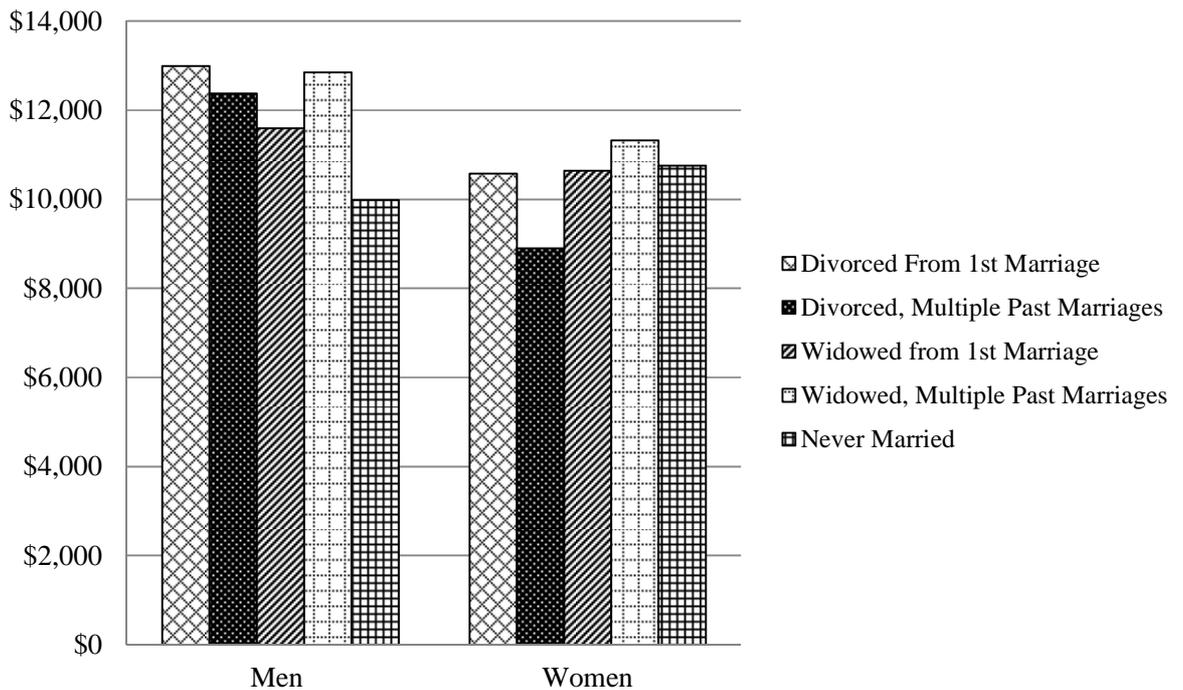


Figure 4. Estimated value of Social Security income for unmarried respondents by gender and current marital status. Estimated based on the gender interaction model shown in Table 8. Reference group: Widowed from first marriage.

Marriage duration, the focus of the second set of hypotheses, may have a minor role in the Social Security income of unmarried people. Though a negative relationship between length of longest marriage and Social Security income is present in the unadjusted model, there are no significant relationships in the fully-adjusted model (Table 8). The interactions between gender and marriage duration are also not significant.

The only significant variable representing marriage duration indicates a relationship between proportion of lifetime spent married and Social Security income (Table 9). For unmarried respondents, there is a positive relationship between lifetime spent married and Social Security income ( $b = .16, p = .01$ ) providing support for Hypothesis 4 (i.e., being married for a greater proportion of one's lifetime is related to more Social Security income). No significant gender interactions are identified.

Finally, the relationship between the timing of marital transitions and Social Security income is investigated. The fully-adjusted model shows that compared to those widowed after age 50, people who lost their spouse before age 50 have less Social Security income ( $b = -.13, p = .02; F(5, 48) = 5.43, p < .001$ ). Further analysis switching the reference group indicates that people widowed before age 50 ( $b = -.15, p = .003$ ) and people divorced before age 30 ( $b = -.11, p = .02$ ) have less Social Security income than people who divorced in mid-life between ages 30 and 49. These findings refute Hypothesis 7, which states that those who become unmarried later in life will have less retirement income than those unmarried earlier in life. Instead, the Social Security benefits for those widowed and divorced before age 30 are lower than for people widowed after age 50 or divorced between ages 30 and 49.

In summary, the types of disruptions unmarried people experience have a relationship to their Social Security income. First, widows and widowers with more than one previous marriage may have a higher probability of receiving a Social Security benefit. For those who do receive a benefit, divorced women with multiple previous marriages appear to be receiving less income than other unmarried women with the

exception of the never married. This analysis also finds a relationship between marital disruption timing and Social Security income; experiencing a disruption earlier in life is associated with less Social Security income, which was not expected.

Table 7. Binomial logistic regressions for Social Security receipt for unmarried respondents (odds ratios).

	All Unmarried Respondents			Gender-Specific Models		
	No controls except gender	Full model, all controls	Full + gender interactions <sup>†</sup>	Men only <sup>†</sup>	Women only	
SET OF VARIABLES: MODEL 1						
Divorced from 1 <sup>st</sup> marriage	0.809	1.246	0.814	1.277	1.399	
Divorced, multiple marriages	0.736	0.992	0.311	0.364	1.269	
Widowed, multiple marriages	2.730	4.767 *	0.851	2.178	9.053 *	
Never married	0.379 *	0.531	0.729	2.389	0.567	
1 <sup>st</sup> marriage <15 years	0.423 +	0.428	0.715	0.720	0.470	
1 <sup>st</sup> marriage 15-29 years	0.633	0.600	2.485	8.277	0.488	
Female	0.868	0.672	0.762	n/a	n/a	
Age 64-65		3.721 *	3.730 *	4.910	4.407 **	
Age 66 and older		14.253 ***	14.729 ***	704.15 ***	16.593 ***	
Female x Divorced once			1.583			
Female x Divorced multiple			4.143			
Female x Widowed multiple			12.552			
Female x Never married			0.688			
Female x 1 <sup>st</sup> marriage <15 years			0.614			
Female x 1 <sup>st</sup> marriage 15-29 years			0.182			
	N	803	723	723	161	527
	F	1.31	5.75 ***	5.87 **	9.26 ***	9.44 ***
SET OF VARIABLES: MODEL 2						
Longest marriage < 10 years	0.325 +	0.911	0.525	0.484	0.687	
Longest marriage 10-19 years	0.561	1.083	0.383	0.429	0.767	
Longest marriage 20-29 years	0.606	0.936	0.481	0.485	0.776	
Longest marriage 30-39 years	0.665	0.733	0.540	0.362	0.766	
Never married	0.308 *	0.523	0.222	0.131	0.578	
Divorced young (< 30)	0.952	0.673	0.355	0.363	1.223	
Divorced mid-life (30-49)	0.631	0.632	0.987	0.813	1.032	
Divorced late-life (50+)	0.769	0.759	1.019	0.956	0.882	
Widowed under 50	0.977	0.641	7.409	6.026	0.757	
Female	0.874	0.704	1.869	n/a	n/a	
Age 64-65		3.774 *	6.712 ***	10.370 **	4.515 **	
Age 66 and older		14.895 ***	13.007 ***	59.294 **	15.542 ***	
Female x Longest < 10 years			0.269			
Female x Longest 10-19 years			1.257			
Female x Longest 20-29 years			0.822			
Female x Longest 30-39 years			0.960			
Female x Never married			0.853			
Female x Divorced < 30			4.079			
Female x Divorced 30-49			0.803			
Female x Divorced 50+			0.504			
Female x Widowed under 50			0.157			
	N	803	723	732	161	527
	F	1.30	10.74 ***	3.80 +	6.01 ***	5.53 ***

Reference groups: Widowed from 1<sup>st</sup> marriage, first marriage 30+ years, longest marriage 40+ years, widowed late-life (50+), age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

<sup>†</sup>Note: Few observations and skewed distribution on longest marriage, these models are interpreted cautiously.

Table 8. Linear OLS regressions for Social Security income for unmarried respondents (coefficients).

	All Unmarried Respondents			Gender-Specific Models	
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only
SET OF VARIABLES: MODEL 1					
Divorced from 1 <sup>st</sup> marriage	-0.001	0.029	0.114	0.124	-0.002
Divorced, multiple marriages	-0.085	-0.101	0.065	0.075	-0.180 *
Widowed, multiple marriages	0.120 *	0.081	0.103	0.163	0.056
Never married	-0.143 *	-0.073	-0.233 +	-0.262 +	0.001
1 <sup>st</sup> marriage <15 years	-0.093	-0.085	-0.184 +	-0.153	-0.036
1 <sup>st</sup> marriage 15-29 years	-0.065	-0.034	-0.082	-0.117	-0.028
Female	-0.142 ***	-0.146 ***	-0.151 +	n/a	n/a
Age 64-65		-0.006	-0.006	0.101	-0.027
Age 66 and older		0.028	0.032	0.030	0.041
Female x Divorced once			-0.121		
Female x Divorced multiple			-0.244 *		
Female x Widowed multiple			-0.041		
Female x Never married			0.225 +		
Female x 1 <sup>st</sup> marriage <15 years			0.145		
Female x 1 <sup>st</sup> marriage 15-29 years			0.063		
N	724	653	653	178	475
F	6.28 ***	9.92 ***	15.35 ***	3.53 **	11.94 ***
R-Squared	0.040	0.280	0.292	0.277	0.317
SET OF VARIABLES: MODEL 2					
Longest marriage < 10 years	-0.174 *	-0.077	-0.111	-0.181	-0.086
Longest marriage 10-19 years	-0.105	-0.080	-0.184	-0.277 *	-0.056
Longest marriage 20-29 years	-0.133 *	-0.053	-0.092	-0.111	-0.053
Longest marriage 30-39 years	-0.076	-0.006	0.054	0.007	-0.046
Never married	-0.197 **	-0.107 +	-0.240	-0.306 +	-0.049
Divorced young (< 30)	-0.031	-0.091 +	-0.171	-0.077	-0.060
Divorced mid-life (30-49)	0.028	0.029	0.174 +	0.224 *	-0.023
Divorced late-life (50+)	-0.048	-0.067	0.022	-0.006	-0.140 +
Widowed under 50	-0.086	-0.127 *	-0.243	-0.236	-0.124 +
Female	-0.128 ***	-0.134 ***	-0.109	n/a	n/a
Age 64-65		0.010	0.016	0.101	0.005
Age 66 and older		0.027	0.033	0.029	0.052
Female x Longest < 10 years			0.017		
Female x Longest 10-19 years			0.119		
Female x Longest 20-29 years			0.033		
Female x Longest 30-39 years			-0.094		
Female x Never married			0.184		
Female x Divorced < 30			0.110		
Female x Divorced 30-49			-0.189		
Female x Divorced 50+			-0.167		
Female x Widowed under 50			0.123		
N	724	653	653	178	475
F	3.99 ***	19.15 ***	101.83 *	10.34 ***	9.42 ***
R-Squared	0.038	0.281	0.301	0.338	0.307

Reference groups: Widowed from 1<sup>st</sup> marriage, first marriage 30+ years, longest marriage 40+ years, widowed late-life (50+), age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 9. Linear OLS regressions for Social Security income for unmarried respondents; Proportion of lifetime married model (coefficients).

	All Unmarried Respondents			Gender-Specific Models	
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only
SET OF VARIABLES: MODEL 3					
Proportion of lifetime married	0.171 **	0.159 **	0.328 **	0.325 **	0.087
Female	-0.126 ***	-0.140 ***	-0.027	n/a	n/a
Age 64-65		0.001	0.008	0.123	-0.023
Age 66 and older		0.032	0.039	0.058	0.039
Female x lifetime married			-0.239 +		
N	710	639	639	174	465
F	10.04 ***	15.51 ***	13.49 ***	2.95 **	8.03 ***
R-Squared	0.027	0.254	0.258	0.267	0.275

Reference group: Age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*, <0.010 = \*\*, <0.050 = \*, <0.100 = +.

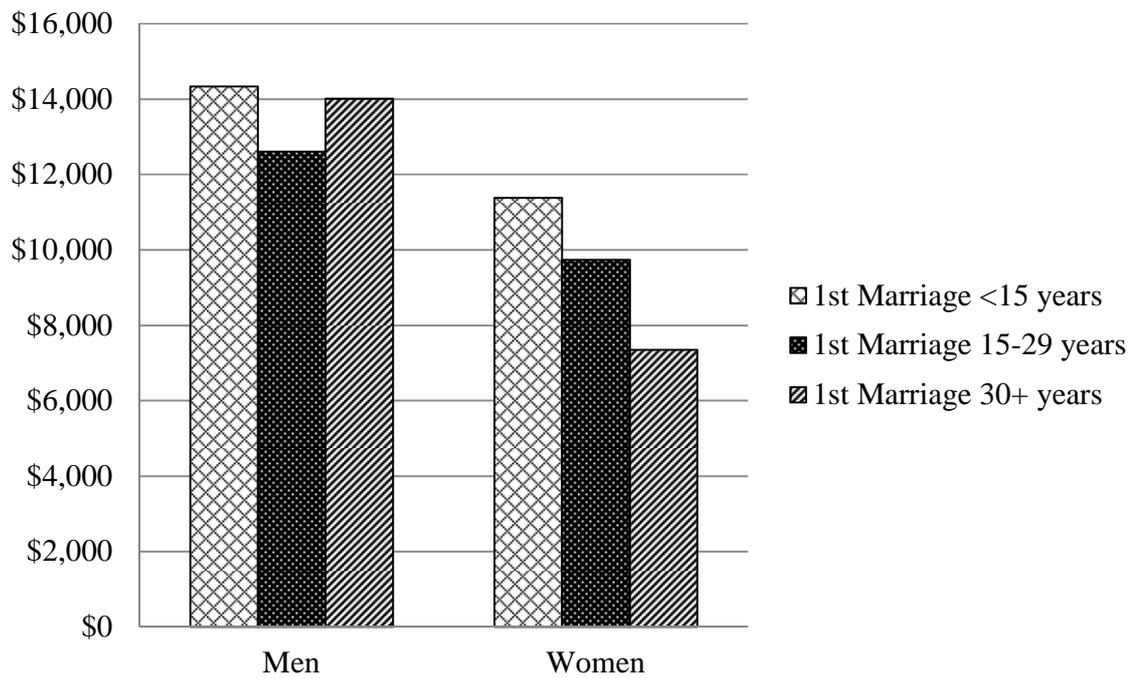
## **Pension and Annuity Benefits**

### ***Married Respondents***

For the employer-sponsored pensions of married individuals, there are strong relationships between benefit receipt and a person's retirement age, gender, and work history. Marital history, in contrast, has little association to pension income. First, the models analyzing pension receipt suggest that there is no relationship between receiving an employer-sponsored pension and marital history (Table 10). For married people who do receive a pension, the fully-adjusted model suggests there is no significant association between pension income amount and marital history (Table 11). When gender interaction terms are included, the only significant association pertains to the Female X Length of Marriage interaction.

As shown in Figure 5, the relationship between first marriage length and employer-sponsored pension income differs by gender. There is a negative relationship between women's first marriage length and employer-sponsored pension income. Experiencing a first marriage lasting 15 to 29 years results in more pension income for women compared to women with a first marriage that lasted 30 years or longer ( $b = .39$ ,  $p = .01$ ;  $F(2, 51) = 3.92$ ,  $p = .03$ ). The relationship is only approaching significance for women whose first marriage lasted less than 15 years but a negative trend is still observed ( $b = .41$ ,  $p = .06$ ). For married men, there is no relationship between length of first marriage and pension income. Figure 5 identifies an additional gender difference in pension income; for all first marriage lengths, men are taking home more pension income than women.

Thus, for the married sample, marital history has very little association with employer-sponsored pensions. This analysis finds no relationship between marital history and pension receipt. There is no association between marital status, marital frequency, or disruption timing and an individual's pension amount. Furthermore, the results suggest that marital history has no relationship to the pension income of currently married men, which provides support for the assumption that remarriage benefits individuals' retirement security. Hypothesis 5 states that individuals with longer marriages will have more pension income, but the results indicate the opposite relationship for married women. A relationship between women's first marriage length and pension income is observed; the amount of benefits received from an employer-sponsored pension is negatively related to the length of women's first marriages. Gender-specific models examining men and women's pension income separately support these findings (Table 11).



*Figure 5.* Estimated value of employer-sponsored pension income for married respondents by gender and length of first marriage. Estimated based on the gender interaction models shown in Table 11. Reference group: First marriage lasting 30 years or more.

Table 10. Binomial logistic regressions for pension receipt for married respondents (odds ratios).

	All Married Respondents						Gender-Specific Models			
	No controls except gender		Full model, all controls		Full + gender interactions		Men only		Women only	
SET OF VARIABLES: MODEL 1										
Remarried – one divorce	1.047		1.094		1.061		1.094		1.034	
Remarried – one widowhood	1.280		1.575		1.324		1.376		1.544	
Remarried – multiple disruptions	0.698		0.751		0.786		0.777		0.651	
1 <sup>st</sup> marriage <15 years	0.749	+	0.851		0.859		0.856		0.874	
1 <sup>st</sup> marriage 15-29 years	0.816	*	0.846		0.889		0.882		0.838	
Female	0.374	***	0.563	***	0.570	***	n/a		n/a	
Age 61 and younger			0.965		0.966		0.908		1.001	
Age 64-65			0.980		0.980		1.026		0.981	
Age 66 and older			0.983		0.987		1.606		0.618	
Female x remarried divorce					1.077					
Female x remarried widowhood					1.396					
Female x remarried multiple					0.873					
Female x 1 <sup>st</sup> marriage <15 years					0.978					
Female x 1 <sup>st</sup> marriage 15-29 years					0.889					
N	3,294		2,814		2,814		1,432		1,382	
F	36.25	***	20.32	***	18.42	**	5.03	**	5.49	**
SET OF VARIABLES: MODEL 2										
Longest marriage < 10 years	0.952		1.233		0.772		0.656		1.419	
Longest marriage 10-19 years	0.761		0.693		0.851		0.848		0.505	
Longest marriage 20-29 years	0.930		0.855		0.727	+	0.727		1.147	
Longest marriage 30-39 years	1.021		0.916		0.998		1.022		0.784	
Divorced young (< 30)	0.715	*	0.942		0.984		0.965		0.823	
Divorced mid-life (30-49)	0.966		1.089		1.095		1.146		0.987	
Divorced late-life (50+)	1.301		1.351		1.234		1.284		3.373	+
Widowed under 50	0.982		1.234		1.412		1.460		0.972	
Widowed late-life (50+)	1.335		2.252		1.487		1.564		3.591	
Female	0.385	***	0.571	***	0.587	***	n/a		n/a	
Age 61 and younger			0.982		0.971		0.917		1.023	
Age 64-65			0.985		0.968		1.008		0.988	
Age 66 and older			0.960		0.948		1.545		0.589	
Female x Longest < 10 years					2.426					
Female x Longest 10-19 years					0.629					
Female x Longest 20-29 years					1.616					
Female x Longest 30-39 years					0.821					
Female x Divorced < 30					0.842					
Female x Divorced 30-49					0.917					
Female x Divorced 50+					2.095					
Female x Widowed under 50					0.703					
Female x Widowed 50+					2.600					
N	3,276		2,823		2,823		1,440		1,383	
F	17.28	***	11.75	**	.		10.30	***	7.40	**

Reference groups: Continuously married, first marriage 30+ years, longest marriage 40+ years, age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, spouse's health and current employment, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*, <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 11. Linear OLS regressions for pension income for married respondents (coefficients).

	All Married Respondents					Gender-Specific Models				
	No controls except gender		Full model, all controls	Full + gender interactions		Men only	Women only			
SET OF VARIABLES: MODEL 1										
Remarried – one divorce	-0.301	*	-0.114	-0.069		-0.117	-0.138			
Remarried – one widowhood	-0.409	**	-0.076	0.057		0.009	-0.312			
Remarried – multiple disruptions	-0.456	***	-0.192	-0.124		-0.142	-0.185			
1 <sup>st</sup> marriage <15 years	0.295	*	0.161	0.024		0.054	0.265			
1 <sup>st</sup> marriage 15-29 years	0.228	**	0.009	-0.105		-0.104	0.217 *			
Female	-0.452	***	-0.499	***	***	n/a	n/a			
Age 61 and younger			0.314	***	0.310	***	0.277 **	0.359 ***		
Age 64-65			0.038		0.031		0.091	0.004		
Age 66 and older			0.046		0.037		0.176	-0.102		
Female x remarried divorce					-0.180					
Female x remarried widowhood					-0.383					
Female x remarried multiple					-0.253					
Female x 1 <sup>st</sup> marriage <15 years					0.414	+				
Female x 1 <sup>st</sup> marriage 15-29 years					0.387	**				
N	1,473		1,330	1,330		832	498			
F	26.42	***	18.16	***	22.99	***	21.23	***	23.48	***
R-Squared	0.067		0.364		0.368		0.340		0.407	
SET OF VARIABLES: MODEL 2										
Longest marriage < 10 years	0.319		0.033	-0.239		-0.149	0.181			
Longest marriage 10-19 years	0.391	**	0.136	0.027		0.066	0.260			
Longest marriage 20-29 years	0.244	*	-0.015	-0.109		-0.096	0.064			
Longest marriage 30-39 years	0.248	***	0.046	0.031		0.019	0.041			
Divorced young (< 30)	-0.190	+	0.039	-0.016		-0.012	0.082			
Divorced mid-life (30-49)	-0.259	*	-0.085	-0.035		-0.104	-0.076			
Divorced late-life (50+)	-0.282		-0.116	-0.144		-0.180	0.089			
Widowed under 50	-0.440	*	-0.070	0.098		0.024	-0.316			
Widowed late-life (50+)	-0.244	+	0.070	0.031		0.006	0.196			
Female	-0.432	***	-0.494	***	***	n/a	n/a			
Age 61 and younger			0.301	***	0.293	***	0.259 **	0.345 ***		
Age 64-65			0.035		0.030		0.081	0.005		
Age 66 and older			0.044		0.036		0.175	-0.115		
Female x Longest < 10 years					0.524					
Female x Longest 10-19 years					0.381					
Female x Longest 20-29 years					0.294	+				
Female x Longest 30-39 years					0.042					
Female x Divorced < 30					0.077					
Female x Divorced 30-49					-0.169					
Female x Divorced 50+					0.292					
Female x Widowed under 50					-0.440					
Female x Widowed 50+					0.109					
N	1,479		1,334	1,334		835	499			
F	15.55	***	10.31	***	.	32.09	***	15.38	***	
R-Squared	0.074		0.363		0.367		0.340		0.408	

Reference groups: Continuously married, first marriage 30+ years, longest marriage 40+ years, age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, spouse's health and current employment, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 12. Linear OLS regressions for pension income for married respondents; Proportion of lifetime married model (coefficients).

	All Married Respondents			Gender-Specific Models	
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only
SET OF VARIABLES: MODEL 3					
Proportion of lifetime married	-0.331 *	-0.102	0.155	0.047	-0.140
Female	-0.462 ***	-0.504 ***	-0.032	n/a	n/a
Age 61 and younger		0.303 ***	0.299 ***	0.257 **	0.347 ***
Age 64-65		0.045	0.046	0.101	0.022
Age 66 and older		0.063	0.061	0.206	-0.089
Female x lifetime married			-0.583 +		
N	1,463	1,320	1,320	825	495
F	61.13 ***	18.52 ***	28.13 ***	14.19 ***	26.85 ***
R-Squared	0.060	0.363	0.365	0.335	0.403

Reference group: Age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, spouse's health and current employment, childrearing patterns, number of living children, resident children, and wave of retirement.

<0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

### *Unmarried Respondents*

Continuing the analysis, this section explores marital history's relationships to unmarried respondent's employer-sponsored pension receipt and income. The results reveal a strong relationship to receiving a pension benefit. The binomial regression results presented in Table 13 suggest that each characteristic of marital history studied may be associated with whether an unmarried individual is receiving an employer-sponsored pension. Odds ratios are presented for all estimates in Table 13, but predicted probabilities for significant results will also be included in the text to provide a more informative discussion.

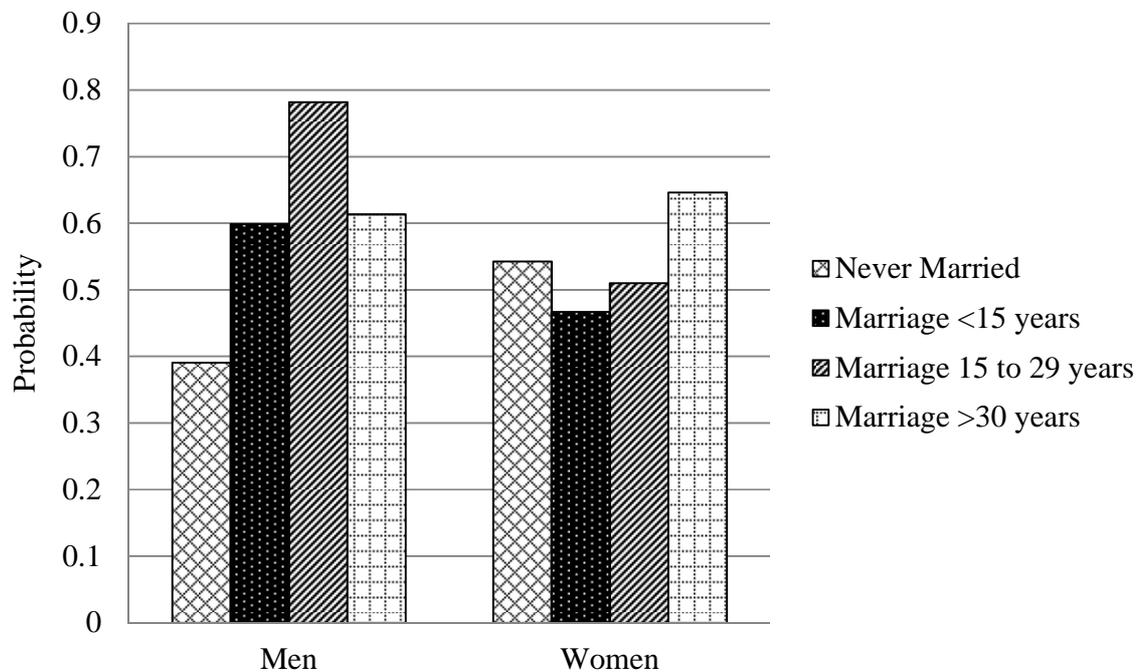
The first set of analyses examines the relationship between marital status and frequency of disruptions and employer-sponsored pensions. The fully-adjusted models show no significant association between marital status and pensions. When the gender interaction terms are included in the model, however, the group of dummy variables representing detailed marital status has a relationship to pensions. Specifically, people who are never married (OR = .36,  $p = .05$ ) or divorced once (OR = .38,  $p = .04$ ) have lower odds of receiving a pension compared to people widowed from their first marriage, indicating that there may be a relationship between marital status and pension income for unmarried men, but not for women. The joint F test, however, indicates that the significance of this relationship is questionable,  $F(4, 49) = 1.56, p = .20$ . The gender interaction model suggests that men who are divorced from their first marriage have a predicted probability of receiving a pension of 0.63, whereas men currently widowed from their first marriage have a probability of 0.65. This indicates that the association

between men's marital history and pension receipt is weak and, given the non-significant joint F-test, there appears to be little support for Hypothesis 3 (i.e., divorcees have lower odds of receiving an employer-sponsored pension). Never married men have the lowest probability of receiving an employer-sponsored pension (probabilities of 0.59 for never married versus 0.65 for widowed once). This provides some substantive support for Hypothesis 9 (i.e., being never married will be negatively related to retirement resources) but again, the marital status variable category is not significant.

Gender-specific models are analyzed to further investigate these findings (Table 13). In the model for men only, never married men (OR = .15,  $p = .002$ ), men divorced once (OR = .22,  $p = .01$ ), and men divorced after multiple past marriages (OR = .31,  $p = .03$ ) all have statistically lower odds of receiving a pension compared to men widowed once,  $F(4, 49) = 3.52$ ,  $p = .01$ . Being currently divorced, whether from their first marriage or another marriage, made it less likely men would be receiving a pension (0.70 and 0.71 respectively versus 0.72 for first time widowers). The predicted probability that never married men will be receiving an employer-sponsored pension is lowest at 0.66. This finding supports Hypothesis 9 for men; never married men are less likely than men widowed from their first marriage to receive a pension in retirement. There is no difference between other unmarried men and never married men's pension receipt.

The next set of hypotheses tests the relationship between marital duration and pension receipt. As previously stated, Hypothesis 4 suggests a positive relationship between retirement resources and the proportion of lifetime spent married. Hypothesis 5 states that those who are in longer marriages will have more retirement resources.

Hypothesis 5 is supported by this analysis, though gender differences are observed. In the full-adjusted model, those whose first marriage lasted less than 15 years have lower odds of receiving a pension than those with marriages lasting 30 years or more, though again the joint F-test is not significant ( $OR = .57, p = .03; F(3, 50) = 2.15, p = .11$ ), and the relative difference is small (0.61 versus 0.63 for a < 15 year first marriage compared to a first marriage lasting 30 years or more). Further analysis indicates a significant Female X First Marriage Length interaction (Figure 6).



*Figure 6.* Predicted probability of receiving an employer-sponsored pension for unmarried respondents by gender and length of first marriage. Estimated based on the gender interaction model shown in Table 13. Reference group: First marriage lasting 30 years or more.

As shown in Figure 6, and supported by the gender-specific models for men and women in Table 13, the predicted probability of receiving a pension is greater for unmarried men whose first marriage lasted between 15 and 29 years compared to unmarried men whose first marriage lasted 30 years or more,  $F(3, 50) = 6.34, p < .001$ . Never married men have a lower probability of receiving an employer-sponsored pension compared to men whose marriage lasted 30 years or longer. For unmarried women, the length of first marriage is positively related to the probability they will receive a pension, though never married women may be an exception to this relationship. As observed in Figure 6, unmarried women whose first marriage lasted less than 15 years have a lower probability of receiving a pension compared to women whose first marriage lasted 30 years or more. There is no support for a relationship between lifetime spent married and receiving a pension (Hypothesis 4).

In terms of the timing of marital disruptions, there is an association between divorce, disruption timing, and pension receipt. In the fully-adjusted model, respondents whose first disruption was a divorce between ages 30 to 49 ( $OR = .59, p = .04$ ) or a divorce after age 50 ( $OR = .49, p = .02$ ) have lower odds of receiving an employer-sponsored pension compared to those widowed after age 50. Additional testing, however, suggests that this association may be unreliable,  $F(5, 48) = 1.75, p = .14$ . An unmarried person whose first disruption was a divorce in mid-life (age 30 to 49) has a predicted probability of receiving a pension of 0.51, and a person whose divorce was after age 50 has a probability of 0.47 (compared to 0.64 for those whose first disruption was widowhood after age 50). The non-significant joint F test for the disruption-timing

category and additional analyses with either divorced at age 30 to 49 or divorced at age 50 or older as the reference group suggest that being currently divorced may matter for pension receipt and not the timing of the disruption. There were no other relationships between these variables and disruption timing. Still, the results provide support for Hypothesis 3, which proposes that the negative associations between marital disruptions and retirement income will be greater for those who experienced divorce than for those who were widowed. The results also provide support for Hypothesis 7, which states that a disruption later in life is related to a lower probability of receiving a pension, though the type of disruption rather than the timing of the event may primarily drive this relationship.

This analysis finds no significant relationship between marital history and pension income amount for the unmarried respondents (Table 14). Thus, marital history has a relationship to whether or not unmarried individuals receive an employer-sponsored pension but for those who are receiving a benefit, marital history has no association with the amount received. To summarize, the odds of receiving a pension are lower for divorcees than widow(er)s and first marriage duration has a relationship that is moderated by gender. The relationship among unmarried men's first marriage duration and their pension receipt is complex: Men are more likely to receive a pension if they had a first marriage lasting 15 to 29 years compared to men with a marriage 30 year or longer. The results also suggest that never married men have the lowest odds of receiving a pension compared to other unmarried men. The length of women's first marriage has a positive relationship to pension receipt, and there are no other significant findings for women.

Table 13. Binomial logistic regressions for pension receipt for unmarried respondents (odds ratios).

	All Unmarried Respondents			Gender-Specific Models		
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only	
SET OF VARIABLES: MODEL 1						
Divorced from 1 <sup>st</sup> marriage	0.841	0.797	0.379 *	0.215 **	1.007	
Divorced, multiple marriages	0.800	0.795	0.402	0.311 *	0.928	
Widowed, multiple marriages	0.861	1.094	0.825	0.844	1.049	
Never married	0.776	0.565 +	0.360 *	0.146 **	0.717	
1 <sup>st</sup> marriage <15 years	0.671 +	0.565 *	0.941	0.858	0.519 *	
1 <sup>st</sup> marriage 15-29 years	0.928	0.804	2.257 +	2.637 *	0.592 +	
Female	0.885	0.953	1.023	n/a	n/a	
Age 61 and younger		1.040	1.088	1.140	1.073	
Age 64-65		1.120	1.173	2.020	1.096	
Age 66 and older		1.131	1.180	0.958	1.347	
Female x Divorced once			2.541 +			
Female x Divorced multiple			2.335			
Female x Widowed once			1.426			
Female x Never married			1.804			
Female x 1 <sup>st</sup> marriage <15 years			0.510			
Female x 1 <sup>st</sup> marriage 15-29 years			0.253 *			
	N	1,165	1,047	1,047	299	748
	F	1.90 +	6.28 ***	4.92 **	4.21 **	7.54 ***
SET OF VARIABLES: MODEL 2						
Longest marriage < 10 years	0.889	0.726	1.031	0.772	0.807	
Longest marriage 10-19 years	1.129	0.837	2.250	2.200	0.653	
Longest marriage 20-29 years	1.148	1.043	2.038	2.039	0.860	
Longest marriage 30-39 years	1.072	0.943	1.432	1.397	0.863	
Never married	0.751	0.536 +	0.405	0.179 *	0.707	
Divorced young (< 30)	0.539 *	0.603 +	0.340 +	0.269 +	0.709	
Divorced mid-life (30-49)	0.597 *	0.594 *	0.377 *	0.286 *	0.705	
Divorced late-life (50+)	0.622 +	0.491 *	0.361 *	0.238 **	0.509 +	
Widowed under 50	0.580 +	0.664	0.883	0.871	0.782	
Female	0.896	0.943	1.199	n/a	n/a	
Age 61 and younger		1.056	1.083	1.049	1.067	
Age 64-65		1.186	1.239	2.338 +	1.136	
Age 66 and older		1.162	1.210	1.070	1.370	
Female x Longest < 10 years			0.646			
Female x Longest 10-19 years			0.258			
Female x Longest 20-29 years			0.392			
Female x Longest 30-39 years			0.569			
Female x Never married			1.542			
Female x Divorced < 30			2.248			
Female x Divorced 30-49			1.891			
Female x Divorced 50+			1.389			
Female x Widowed under 50			0.890			
	N	1,164	1,046	1,046	298	748
	F	1.68	6.05 ***	9.13 *	5.98 ***	5.21 **

Reference groups: Widowed from 1<sup>st</sup> marriage, first marriage 30+ years, longest marriage 40+ years, widowed late-life (50+), age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 14. Linear OLS regressions for pension income for unmarried respondents (coefficients).

	All Unmarried Respondents			Gender-Specific Models		
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only	
SET OF VARIABLES: MODEL 1						
Divorced from 1 <sup>st</sup> marriage	0.246 *	0.025	-0.120	-0.225	0.066	
Divorced, multiple marriages	0.217	0.204	0.351	0.318	0.080	
Widowed, multiple marriages	-0.133	0.004	-0.309	-0.085	0.074	
Never married	0.410 *	0.050	0.018	-0.147	0.057	
1 <sup>st</sup> marriage <15 years	0.132	-0.015	0.109	-0.015	-0.028	
1 <sup>st</sup> marriage 15-29 years	0.026	0.025	0.211	0.273	-0.009	
Female	-0.172 *	-0.091	-0.013	n/a	n/a	
Age 61 and younger		0.360 ***	0.365 ***	0.786 ***	0.161	
Age 64-65		0.044	0.046	0.211	-0.058	
Age 66 and older		0.250 +	0.257 +	0.538 +	0.126	
Female x Divorced once			0.193			
Female x Divorced multiple			-0.274			
Female x Widowed once			0.385			
Female x Never married			0.040			
Female x 1 <sup>st</sup> marriage <15 years			-0.144			
Female x 1 <sup>st</sup> marriage 15-29 years			-0.241			
N	581	533	533	158	375	
F	3.14 **	17.90 ***	14.43 ***	25.71 ***	11.79 ***	
R-Squared	0.040	0.415	0.423	0.572	0.413	
SET OF VARIABLES: MODEL 2						
Longest marriage < 10 years	0.552 **	-0.028	0.102	-0.057	-0.076	
Longest marriage 10-19 years	0.532 ***	0.180	0.278	0.216	0.188	
Longest marriage 20-29 years	0.415 **	0.092	0.097	0.131	0.158	
Longest marriage 30-39 years	0.335 *	0.251 +	0.501	0.402	0.187	
Never married	0.621 **	0.140	0.244	0.071	0.109	
Divorced young (< 30)	-0.059	0.121	0.375	0.298	0.039	
Divorced mid-life (30-49)	0.015	0.063	0.232	0.038	-0.021	
Divorced late-life (50+)	0.046	-0.128	-0.071	-0.157	-0.092	
Widowed under 50	-0.330 +	-0.213	-0.036	-0.058	-0.298	
Female	-0.162 +	-0.095	0.148	n/a	n/a	
Age 61 and younger		0.364 ***	0.358 ***	0.715 ***	0.178 +	
Age 64-65		0.075	0.061	0.296	-0.046	
Age 66 and older		0.279 +	0.273 +	0.632 +	0.117	
Female x Longest < 10 years			-0.155			
Female x Longest 10-19 years			-0.105			
Female x Longest 20-29 years			0.050			
Female x Longest 30-39 years			-0.316			
Female x Never married			-0.111			
Female x Divorced < 30			-0.341			
Female x Divorced 30-49			-0.252			
Female x Divorced 50+			-0.015			
Female x Widowed under 50			-0.246			
N	581	533	533	158	375	
F	3.78 ***	68.85 ***	125.19 **	13.43 **	13.03 ***	
R-Squared	0.045	0.424	0.429	0.561	0.424	

Reference groups: Widowed from 1<sup>st</sup> marriage, first marriage 30+ years, longest marriage 40+ years, widowed late-life (50+), age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 15. Linear OLS regressions for pension income for unmarried respondents; Proportion of lifetime married model (coefficients).

	All Unmarried Respondents				Gender-Specific Models					
	No controls except gender		Full model, all controls	Full + gender interactions	Men only	Women only				
SET OF VARIABLES: MODEL 3										
Proportion of lifetime married	-0.486	**	-0.023	0.014	0.566	0.028				
Female	-0.205	*	-0.113	-0.089	n/a	n/a				
Age 61 and younger			0.369	***	0.370	***	0.717	0.179	+	
Age 64-65			0.039		0.041		0.221	-0.069		
Age 66 and older			0.227		0.228		0.524	0.067		
Female x lifetime married					-0.052					
N	565		517		517		153		364	
F	5.46	**	25.95	***	24.21	***	16.93	***	14.11	***
R-Squared	0.030		0.404		0.404		0.530		0.403	

Reference group: Age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*, <0.010 = \*\*, <0.050 = \*, <0.100 = +.

## **Non-Housing Wealth**

### ***Married Respondents***

In exploring marital history's relationship to married respondents' non-housing wealth, the results suggest that marriage frequency, duration, and type of disruption may play a role (Table 16). The first set of marital history hypotheses addresses the association between marital status and disruption frequency, and non-housing wealth. Hypothesis 1 states that married people who experienced a previous marital disruption will possess less non-housing wealth than those who have been continuously married. Indeed, remarried individuals who experienced multiple past disruptions have less non-housing wealth compared to the continuously married, though the non-significant joint F test indicates that the group of dummy variables representing detailed marital status may not matter ( $b = -.39, p = .04; F(3, 50) = 1.85, p = .15$ ). Further analysis including people with multiple past marriages as the reference group indicates that those remarried after one divorce ( $b = .31, p = .05$ ) or one widowhood ( $b = .53, p = .04$ ) also possess more non-housing wealth than remarried people with multiple past marriages. The findings provide support for Hypothesis 2, which states that people with more marital disruptions will have less in non-housing wealth than those with one disruption, but again these results may be unreliable.

In terms of marriage duration, a positive relationship between marriage length and non-housing wealth is observed. In the fully-adjusted model, compared to individuals whose longest marriage lasted 40 years or longer, married respondents whose longest marriage is between 10 and 19 years have less non-housing wealth ( $b = -.31, p = .03; F(4,$

49) = 1.92,  $p = .12$ ). Again, this association may be unreliable given the non-significance of the joint F test. There are no significant relationships for the proportion of lifetime spent married (Table 17), or the Female X Length of Marriage interaction and non-housing wealth (Table 16).

With regard to the final marital history hypothesis, there is a relationship between the timing of marital disruptions and non-housing wealth. Compared to the continuously married, remarried individuals who experienced widowhood before age 50 have more non-housing wealth ( $b = .33$ ,  $p = .03$ ); however, the association is again questionable given the non-significant joint F test,  $F(5, 48) = 1.06$ ,  $p = .39$ . Furthermore, there are no other significant relationships between the timing of disruptions and non-housing wealth suggesting timing has a limited role, if any.

In summary, marital history may have a weak relationship to non-housing wealth accumulation for married and remarried people. Although there are some significant relationships between non-housing wealth and marriage frequency, marriage duration, and the timing of disruptions, the parametric statistical tests for these categorical variables suggest that non-housing wealth amounts have no significant association with marital history.

Table 16. Linear OLS regressions on non-housing wealth for married respondents (coefficients).

	All Married Respondents			Gender-Specific Models	
	No controls except gender	Full model, all controls	Full + gender interactions, all controls	Men only, all controls	Women only, all controls
SET OF VARIABLES: MODEL 1					
Remarried – one divorce	0.034	-0.090	0.039	0.044	-0.239
Remarried – one widowhood	-0.010	0.129	0.100	0.099	0.210
Remarried – multiple disruptions	-0.272	-0.390 *	-0.490 *	-0.464 *	-0.234
1 <sup>st</sup> marriage <15 years	-0.353 +	0.094	-0.072	-0.070	0.285
1 <sup>st</sup> marriage 15-29 years	-0.213	-0.007	-0.109	-0.091	0.128
Female	-0.039	0.185 **	0.108	n/a	n/a
Age 61 and younger		0.095	0.089	0.139	0.074
Age 64-65		0.201 +	0.198 +	0.233	0.111
Age 66 and older		0.011	0.000	0.134	-0.268
Female x remarried divorce			-0.271		
Female x remarried widowhood			0.034		
Female x remarried multiple			0.279		
Female x 1 <sup>st</sup> marriage <15 years			0.337		
Female x 1 <sup>st</sup> marriage 15-29 years			0.225		
N	3,264	2,814	2,814	1,432	1,382
F	2.80 *	82.24 ***	58.34 ***	65.51 ***	35.49 ***
R-Squared	0.008	0.392	0.394	0.416	0.386
SET OF VARIABLES: MODEL 2					
Longest marriage < 10 years	-1.256 **	-0.542 +	-0.781 *	-0.634 +	-0.409
Longest marriage 10-19 years	-0.396 +	-0.310 *	-0.215	-0.097	-0.461 *
Longest marriage 20-29 years	-0.391 **	-0.224 +	-0.253	-0.135	-0.215
Longest marriage 30-39 years	-0.002	-0.051	-0.049	0.028	-0.104
Divorced young (< 30)	-0.263	0.080	0.025	-0.016	0.147
Divorced mid-life (30-49)	0.247	0.105	0.014	-0.054	0.234
Divorced late-life (50+)	0.059	0.072	0.194	0.198	-0.288
Widowed under 50	0.031	0.331 *	0.202	0.149	0.473 *
Widowed late-life (50+)	0.225	0.431	0.142	0.088	1.052 **
Female	-0.020	0.168 **	0.127	n/a	n/a
Age 61 and younger		0.126 +	0.121 +	0.148	0.120
Age 64-65		0.190 +	0.182 +	0.213	0.098
Age 66 and older		0.002	-0.001	0.104	-0.250
Female x Longest < 10 years			0.388		
Female x Longest 10-19 years			-0.200		
Female x Longest 20-29 years			0.064		
Female x Longest 30-39 years			-0.012		
Female x Divorced < 30			0.098		
Female x Divorced 30-49			0.205		
Female x Divorced 50+			-0.528		
Female x Widowed under 50			0.215		
Female x Widowed 50+			0.700		
N	3,276	2,823	2,823	1,440	1,383
F	2.46 *	32.29 ***	.	31.55 ***	60.47 ***
R-Squared	0.013	0.393	0.394	0.412	0.392

Reference groups: Continuously married, first marriage 30+ years, longest marriage 40+ years, age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, spouse's health and current employment, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 17. Linear OLS regressions on non-housing wealth for married respondents; Proportion of lifetime married model (coefficients).

	All Married Respondents			Gender-Specific Models		
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only	
SET OF VARIABLES: MODEL 3						
Proportion of lifetime married	1.265 ***	0.331	0.364	0.273	0.235	
Female	-0.073	0.170 **	0.223	n/a	n/a	
Age 61 and younger		0.115	0.114	0.130	0.130	
Age 64-65		0.208 +	0.208 +	0.226	0.135	
Age 66 and older		0.017	0.017	0.101	-0.229	
Female x lifetime married			-0.067			
N	3,230	2,788	2,788	1,421	1,367	
F	12.03 ***	99.29 ***	95.92 ***	48.85 ***	36.58 ***	
R-Squared	0.008	0.393	0.393	0.409	0.393	

Reference group: Age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, spouse's health and current employment, childrearing patterns, number of living children, resident children, and wave of retirement.

<0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

### *Unmarried Respondents*

The final analysis performed on unmarried respondents suggests that marital history has a significant relationship to their non-housing wealth accumulation. Similar to the analyses performed above, this analysis explores marital history factors such as marital status and disruption frequency, marriage duration, and the timing of disruptions. Although the results show no relationship between disruption timing and non-housing wealth, the features of marital status, disruption frequency, and marriage duration are associated with non-housing wealth (Table 18).

The first set of hypotheses addresses the relationship between non-housing wealth and marital status and disruption frequency. The results suggest that never married individuals have less non-housing wealth ( $b = -.60, p < .001$ ) than people who were widowed from their first marriage, and the joint F test is significant,  $F(4, 49) = 4.07, p = .01$ . This result is further supported by a separate analysis with never married as the reference group. Divorced and widowed respondents have significantly more non-housing wealth than never married individuals with the exception of people divorced after multiple previous marriages. This provides support for Hypothesis 9, which proposes that being never married is negatively related to non-housing wealth.

Hypothesis 2, which relates to disruption frequency, states that unmarried people who experienced multiple marital disruptions will possess less wealth than those widowed from their first marriage. This is not supported in the fully-adjusted models shown in Table 18. A gender interaction involving marital status and female gender (Figure 7) indicates that among widowed women, those widowed from a previous

marriage that was not their first marriage have more non-housing wealth than women widowed from their first marriage ( $b = 1.35, p = .01; F(4, 49) = 2.33, p = .07$ ). In contrast, the opposite relationship is observed for men; widowed men who had multiple past marriages have less wealth than men widowed from their first marriage. These findings indicate that the relationship between multiple disruptions and non-housing wealth is tied to gender. The results provide support for Hypothesis 2 (i.e., people with multiple marital disruptions will have less non-housing wealth) for widowed men but the relationship is in the opposite direction than expected for widowed women.

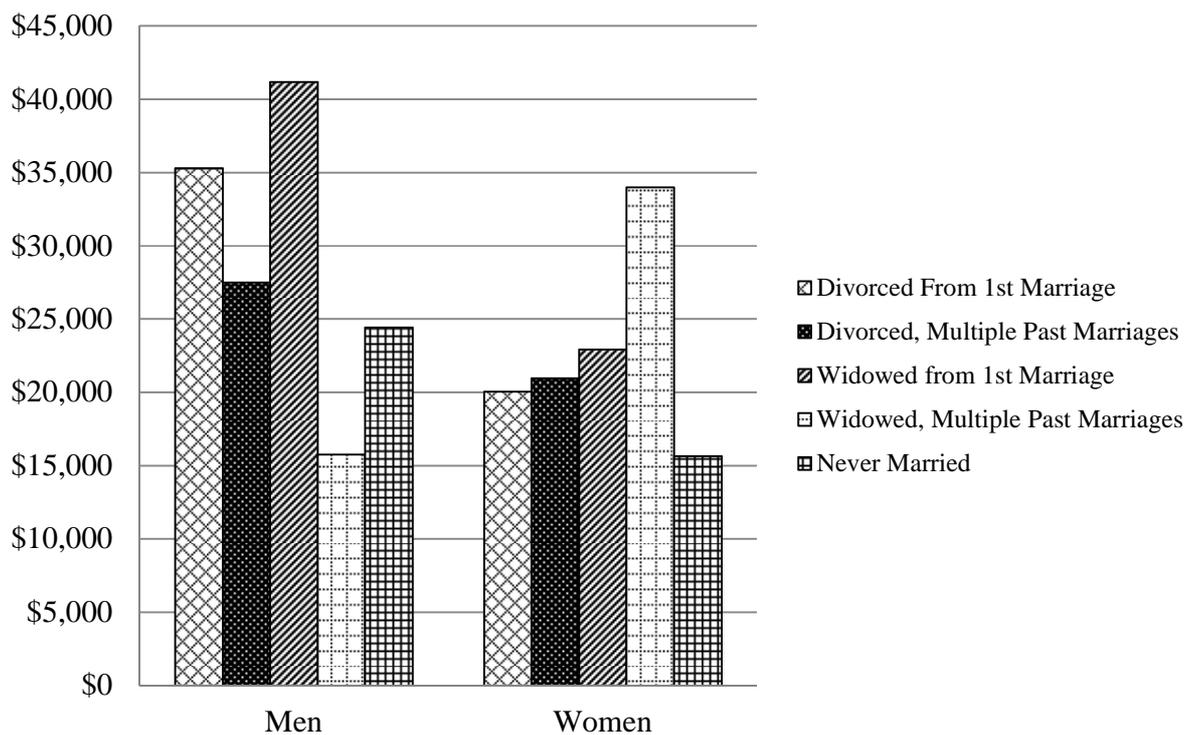


Figure 7. Estimated value of non-housing wealth for unmarried respondents by gender and marital status. Estimated based on the gender interaction model shown in Table 18. Reference group: Widowed from first marriage.

Next the analysis explores whether marriage duration, prior to becoming unmarried, has a relationship to non-housing wealth. When examining the fully-adjusted models in Table 18, a number of measures representing marriage duration have a relationship to non-housing wealth. First, unmarried people whose first marriage lasted less than 15 years have less non-housing wealth than those with a first marriage lasting 30 years or longer ( $b = -.40, p = .01; F(2, 51) = 3.95, p = .03$ ). Second, length of longest marriage has a strong, positive relationship to non-housing wealth. Unmarried respondents who are never married ( $b = -.86, p < .001$ ) or whose longest marriage is less than 10 years ( $b = -.86, p < .001$ ), between 10-19 years ( $b = -.70, p = .002$ ), or between 20-29 years ( $b = -.59, p = .004$ ) all have significantly less non-housing wealth than people whose longest marriage is 40 years or more,  $F(5, 48) = 5.17, p < .001$ . As proposed in Hypothesis 5, these results support the statement that length of marriages is positively related to more non-housing wealth. Finally, the marital duration variable representing proportion of lifetime spent married is positively related to non-housing wealth for unmarried respondents ( $b = .90, p < .001$ ). Hypothesis 4, that being married for a greater proportion of one's lifetime is associated with more non-housing wealth, is therefore also supported (Table 19).

Further analysis, however, suggests that the interpretation is not that simple. A significant Female X Length of Marriage interaction shows that again this relationship may be subject to gender differences (Figure 8). For unmarried men there is a positive relationship between non-housing wealth and longest marriage length. In support of

Hypothesis 5, never married men and men with shorter marriages (i.e., a marriage lasting less than 10 years, 10 to 19 years, 20 to 29 years, and 30 to 39 years) have less non-housing wealth compared to men with a marriage that lasted 40 years or more. The figure, however, shows a dramatic difference between the estimated value of non-housing wealth for men with a marriage that lasted 40 years or more compared to all other groups of men. In order to interpret this finding further, gender-specific models are investigated and values are estimated for non-housing wealth by length of longest marriage. There is an extremely large, significant difference between the non-housing wealth of the reference group (i.e., marriage lasted 40 years or more) and other unmarried men, and bivariate analyses indicate a positively skewed relationship between longest marriage length and non-housing wealth for unmarried men (Table 20). Unmarried men with a marriage that lasted four decades or more are a small and relatively wealthy group (n=21); therefore, the results should be interpreted cautiously.

In contrast, a curvilinear relationship is observed with regard to unmarried women's length of longest marriage and non-housing wealth (Figure 8). Never married women or women whose longest marriage lasted less than 30 years have less non-housing wealth compared to women with a marriage lasting 40 years or more. Women with a marriage that lasted 30 to 39 years, however, have more non-housing wealth than women with a 40-year or longer marriage. Thus, for currently unmarried women, Figure 8 indicates shorter marriages are associated with less non-housing wealth compared to women with a marriage over four decades long, with the exception of women whose marriage lasted between 30 and 39 years.

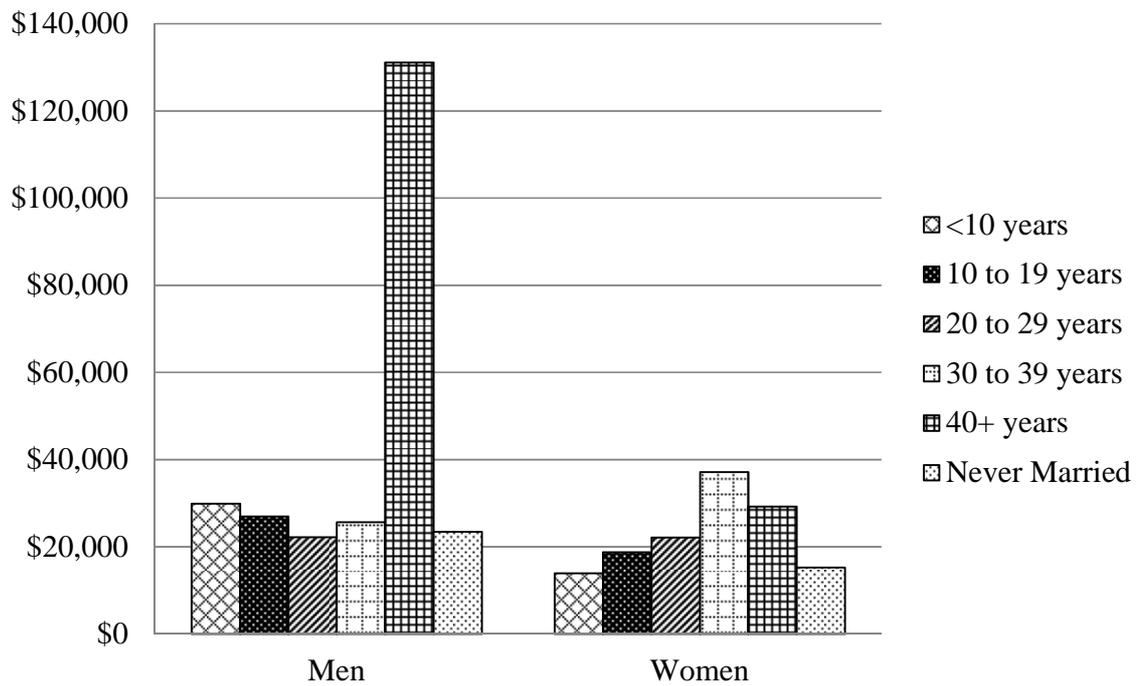


Figure 8. Estimated value of non-housing wealth for unmarried respondents by gender and length of longest marriage. Estimated based on the gender interaction model shown in Table 18. Reference group: Longest marriage lasting 40 years or more.

With regard to the timing of marital disruptions and unmarried respondents' non-housing wealth, this analysis finds no relationship. In summary, a number of marital history characteristics have an association to unmarried people's non-housing wealth. There is support for the hypothesis that never married individuals will have significantly less non-housing wealth than divorced and widowed individuals. There is also a relationship to non-housing wealth that is moderated by gender for people who experienced multiple marital disruptions; widowed men with multiple past marriages have less non-housing wealth than other unmarried men but for this group of widowed women the relationship is in the opposite direction. Finally, the results provide some

support for length of marriage having a positive relationship to non-housing wealth, yet the association appears to be complex and moderated by gender.

Table 18. Linear OLS regressions on non-housing wealth for unmarried respondents (coefficients).

	All Unmarried Respondents			Gender-Specific Models		
	No controls except gender	Full model, all controls	Full + gender interactions	Men only, all controls	Women only, all controls	
SET OF VARIABLES: MODEL 1						
Divorced from 1 <sup>st</sup> marriage	-0.056	-0.122	-0.154	0.003	-0.153	
Divorced, multiple marriages	-0.053	-0.182	-0.403	-0.387	-0.100	
Widowed, multiple marriages	0.354	0.121	-0.960 *	-0.809 +	0.390 *	
Never married	-0.201	-0.602 ***	-0.693 *	-0.491	-0.598 **	
1 <sup>st</sup> marriage <15 years	-0.556 **	-0.397 **	-0.189	-0.116	-0.507 **	
1 <sup>st</sup> marriage 15-29 years	-0.062	-0.150	-0.304	-0.329	-0.097	
Female	-0.607 ***	-0.390 **	-0.571 +	n/a	n/a	
Age 61 and younger		0.427 **	0.424 **	-0.101	0.555 **	
Age 64-65		0.533 **	0.507 **	0.712 *	0.447 +	
Age 66 and older		0.334	0.317	0.814 *	0.132	
Female x Divorced once			0.020			
Female x Divorced multiple			0.313			
Female x Widowed multiple			1.354 *			
Female x Never married			0.126			
Female x 1 <sup>st</sup> marriage <15 years			-0.305			
Female x 1 <sup>st</sup> marriage 15-29 years			0.206			
N	1,165	1,047	1,047	299	748	
F	5.54 ***	36.42 ***	37.67 ***	36.78 ***	35.66 ***	
R-Squared	0.026	0.465	0.470	0.517	0.475	
SET OF VARIABLES: MODEL 2						
Longest marriage < 10 years	-0.908 **	-0.859 ***	-1.477 **	-1.601 **	-0.791 **	
Longest marriage 10-19 years	-0.455	-0.695 **	-1.579 **	-1.718 ***	-0.469 +	
Longest marriage 20-29 years	-0.346	-0.588 **	-1.774 ***	-1.828 ***	-0.316	
Longest marriage 30-39 years	-0.102	-0.192	-1.632 ***	-1.755 ***	0.189	
Never married	-0.356	-0.858 ***	-1.739 ***	-1.806 ***	-0.685 **	
Divorced young (< 30)	0.005	0.153	0.046	0.222	0.155	
Divorced mid-life (30-49)	0.012	0.051	-0.027	0.099	0.023	
Divorced late-life (50+)	0.210	-0.041	0.421	0.413	-0.333	
Widowed under 50	-0.254	-0.143	-0.581	-0.676	-0.157	
Female	-0.538 ***	-0.352 **	-1.525 ***	n/a	n/a	
Age 61 and younger		0.453 ***	0.431 **	-0.180	0.591 ***	
Age 64-65		0.590 **	0.559 **	0.740 **	0.531 *	
Age 66 and older		0.342	0.278	0.598	0.152	
Female x Longest < 10 years			0.736			
Female x Longest 10-19 years			1.136 +			
Female x Longest 20-29 years			1.496 **			
Female x Longest 30-39 years			1.872 ***			
Female x Never married			1.095 *			
Female x Divorced < 30			0.100			
Female x Divorced 30-49			0.067			
Female x Divorced 50+			-0.734 +			
Female x Widowed under 50			0.420			
N	1,164	1,046	1,046	298	748	
F	4.56 ***	52.11 ***	16.48 *	64.04 ***	32.25 ***	
R-Squared	0.030	0.470	0.480	0.540	0.480	

Reference groups: Widowed from 1<sup>st</sup> marriage, first marriage 30+ years, longest marriage 40+ years, widowed late-life (50+), age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 19. Linear OLS regressions on non-housing wealth for unmarried respondents; Proportion of lifetime married model (coefficients).

	All Unmarried Respondents			Gender-Specific Models	
	No controls except gender	Full model, all controls	Full + gender interactions	Men only	Women only
SET OF VARIABLES: MODEL 3					
Proportion of lifetime married	0.670 **	0.895 ***	0.646 +	0.483	1.005 ***
Female	-0.594 ***	-0.380 **	-0.538 *	n/a	n/a
Age 61 and younger		0.439 **	0.436 **	-0.096	0.568 ***
Age 64-65		0.568 **	0.558 **	0.792 **	0.496 +
Age 66 and older		0.343 +	0.336	0.777 *	0.157
Female x lifetime married			0.358		
N	1,134	1,016	1,016	288	728
F	16.16 ***	41.55 ***	39.56 ***	26.36 ***	43.96 ***
R-Squared	0.022	0.465	0.465	0.510	0.470

Reference group: Age 62-63. Control variables (not shown): race/ethnicity, cohort, education, work history, homeownership, self-reported health, ADLs and IADLs, health insurance, childrearing patterns, number of living children, resident children, and wave of retirement. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 20. Predicted values of non-housing wealth for unmarried respondents by length of longest marriage (models for men and women performed separately)

Length of Longest Marriage	Unmarried Men Only (N = 298)	Unmarried Women Only (N = 748)
Never Married	\$26,003.28 ***	\$14,396.99 **
Less than 10 Years	\$35,775.80 **	\$12,794.09 **
10 to 19 Years	\$31,824.67 ***	\$17,657.08 +
20 to 29 Years	\$28,529.70 ***	\$20,567.61
30 to 39 Years	\$30,672.94 ***	\$34,072.25
40 or More Years	\$177,458.80	\$28,216.72

Reference group: 40 or more years; <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.  
 Estimated values calculated from the gender-specific regression models shown in Table 18.

## **Associations with Control Variables**

### ***Married Respondents***

For the married respondents, Tables 21 and 22 display multivariable regression results containing the simplest set of marital history variables and all control variables included in the fully-adjusted models. Table 21 presents the binomial regression results on Social Security benefits and pension benefits, and Table 22 shows linear regression results for Social Security income, pension income, and non-housing wealth.

In terms of demographics, people with higher levels of education have more Social Security income, pension income, and non-housing wealth than people with lower levels of education. They also have higher odds of receiving an employer-sponsored pension. People with higher levels of education, however, have slightly lower odds of receiving Social Security benefits than those with lower levels of education. Race and ethnicity only appears to be related to non-housing wealth; married Black or Hispanic individuals have lower non-housing wealth compared to married Whites. Those who retired before age 62 have more pension income compared to those who retired at age 62 and 63; however, the odds of receiving Social Security benefits increase with retirement age. Finally, married respondents who own a home have more Social Security income and non-housing wealth, as well as higher odds of receiving an employer-sponsored pension compared to those who do not own a home.

The covariates representing work history have a relationship to the retirement resources studied. Length of longest job tenure is positively related to the odds of receiving pension benefits, and to the amount of Social Security income, pension income,

and non-housing wealth. Total years worked is related to higher odds of receiving Social Security benefits and employer-sponsored pension benefits, as well as more Social Security income. There is a negative relationship, however, between total years worked and employer-sponsored pension income. People who reported having a voluntary retirement have higher odds of receiving Social Security and pension benefits, as well as more pension income and non-housing wealth, compared people who reported a forced retirement. Individuals who have employer-sponsored health insurance have higher odds of receiving a pension and have more pension income than individuals who do not have employer health insurance, perhaps because the two often go together in an employer's retirement package. People with employer-sponsored health insurance also have more non-housing wealth compared to people without employer health insurance. In contrast, people who have an employer-sponsored health plan have lower odds of receiving a Social Security benefit compared to those without an employer health plan.

Married respondents' self-reported health has a strong relationship to the receipt of both Social Security and employer-sponsored pensions; people in better health (i.e., excellent, very good, and good health) have higher odds of receiving these benefits than people in fair/poor health. People in better health also have more non-housing wealth compared to people in fair/poor health. Furthermore, people who have ADL limitations possess less wealth than those without limitations. In contrast, people with ADL limitations have higher odds of receiving an employer-sponsored pension compared to those without ADL limitations.

Family variables include spouse characteristics and covariates related to children. These variables only have a relationship to pension benefits and non-housing wealth. With regard to children, those who have children living in the home have lower non-housing wealth compared to individuals without resident children. There is also a negative relationship between the number of living children and non-housing wealth. In terms of spouse characteristics, married respondents with a spouse who is taking home a paycheck, whether the earnings are more or less than \$3,176, have statistically lower pension income compared to respondents with a non-working spouse. Wealth is also related to the spouses' health, and people whose spouses self-reported excellent, very good, and good health have more non-housing wealth compared to respondents whose spouses reported being in fair/poor health.

Table 21. Binomial logistic regression models for married respondents, all control variables and basic marital status (odds ratios)

	Dependent Variable	
	Social Security Binomial	Pension Binomial
Remarried – one divorce	1.402	0.960
Remarried – one widowhood	0.963	1.403
Remarried – multiple disruptions	0.833	0.657 *
Female	1.113	0.569 ***
Black	0.850	1.257 +
Hispanic	0.675	1.354
Other race	0.902	0.916
School Years (0-17)	0.904 **	1.088 ***
Retirement age <62	--	0.951
Retirement age 64-65	2.057 *	0.978
Retirement age >65	3.576 *	0.978
Longest job tenure	0.979 +	1.026 ***
Total years worked	1.033 **	1.015 **
Voluntary retirement	2.325 ***	1.606 ***
Partially voluntary retirement	1.373	1.757 **
First child as a teen	1.063	1.207
First child age 20-25	0.801	1.066
Number of living children	0.943	0.937
No resident children	1.192	0.907
Spouse Earnings < \$3,176	1.126	1.012
Spouse Earnings > \$3,176	1.030	1.076
Spouse health is excellent	1.075	0.958
Spouse health is very good	1.022	0.948
Spouse health is good	0.851	1.162
ADLs dummy	0.593	1.408 *
IADLS dummy	0.799	0.815
Employer health insurance	0.520 **	3.500 ***
Medicare	1.420	1.352
Spouse health insurance	0.672	1.273 +
Respondent health is excellent	3.064 *	1.613 ***
Respondent health is very good	2.552 ***	1.274 *
Respondent health is good	1.663 *	1.132
Homeownership	1.027	1.471 *
War Babies cohort	0.411 +	0.722 *
Retired in wave 3	1.690	0.926
Retired in wave 4	1.303	1.166
Retired in wave 5	1.910	1.302
Retired in wave 6	1.170	0.806
Retired in wave 7	1.828	1.181
Retired in wave 8	2.739	0.969
Retired in wave 9	0.505	0.340 ***
N	1,641	2,814
F	3.01 *	19.76 ***

Reference groups: Continuously married, White, age 62-63, retirement involuntary, first child at age 26+, no spouse earnings, spouse health is poor, respondent health is poor, retired in wave 2.

<0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 22. Linear regression models for married respondents, all control variables and basic marital status (coefficients)

	Dependent Variable				
	Social Security Income		Pension and Annuity Income		Non-Housing Wealth
Remarried – one divorce	0.010		-0.010		-0.031
Remarried – one widowhood	0.130	*	-0.034		0.157
Remarried – multiple disruptions	0.047		-0.095		-0.322 *
Female	-0.276	***	-0.501	***	0.186 **
Black	-0.026		0.030		-1.053 ***
Hispanic	-0.061		0.078		-0.582 ***
Other race	0.019		0.214		-0.028
School Years (0-17)	0.017	***	0.109	***	0.162 ***
Retirement age <62	--		0.315	***	0.097
Retirement age 64-65	0.012		0.039		0.204 +
Retirement age >65	0.032		0.050		0.014
Longest job tenure	0.004	**	0.022	***	0.016 ***
Total years worked	0.004	**	-0.009	*	0.003
Voluntary retirement	0.023		0.260	***	0.318 ***
Partially voluntary retirement	0.034		0.084		0.359 ***
First child as a teen	-0.025	+	-0.009		0.040
First child age 20-25	0.016		-0.064		0.048
Number of living children	-0.006		-0.029		-0.047 *
No resident children	-0.011		-0.076		0.319 ***
Spouse Earnings < \$3,176	-0.041		-0.115	**	-0.195 *
Spouse Earnings > \$3,176	-0.027		-0.136	*	0.061
Spouse health is excellent	0.061		0.057		0.943 ***
Spouse health is very good	0.056	*	-0.040		0.676 ***
Spouse health is good	0.004		-0.057		0.512 ***
ADLs dummy	-0.033		-0.084		-0.320 **
IADLS dummy	0.021		-0.004		0.157
Employer health insurance	0.026		0.392	***	0.347 ***
Medicare	0.007		0.005		0.197 +
Spouse health insurance	0.019		0.212	**	0.318 ***
Respondent health is excellent	0.068	+	0.113		0.516 ***
Respondent health is very good	0.035		0.077		0.466 ***
Respondent health is good	0.033		0.063		0.288 ***
Homeownership	0.092	*	0.109		1.110 ***
War Babies cohort	-0.014		-0.053		0.054
Retired in wave 3	0.003		0.082		-0.135
Retired in wave 4	0.048		0.128		0.128
Retired in wave 5	0.138	***	0.192	*	0.245 +
Retired in wave 6	0.270	***	0.371	***	0.122
Retired in wave 7	0.325	***	0.426	***	0.073
Retired in wave 8	0.376	***	0.442	***	0.403 *
Retired in wave 9	0.278	***	0.125		0.069
_constant	1.731	***	0.382		-0.603 **
N	1,512		1,330		2,814
F	32.24	***	22.13	***	84.10 ***
R-Squared	0.305		0.362		0.392

Reference: Continuously married, White, age 62-63, retirement involuntary, first child at age 26+, no spouse earnings, spouse health is poor, respondent health is poor, retired in wave 2. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

### *Unmarried Respondents*

For the unmarried respondents, Tables 23 and 24 present the regression results of models including the simplest marital history variables and all control variables. Table 23 presents the binomial regression results for Social Security benefits and employer-sponsored pension benefits of the unmarried respondents. Table 24 shows the linear regression results for Social Security income, pension income, and non-housing wealth. Below are highlights of the major covariates for this sample, but in general the covariates that are significant in the married models are also significant in the unmarried models.

In terms of demographic characteristics, unmarried people with higher levels of education have more Social Security income, pension income, and non-housing wealth, and higher odds of receiving a pension than people with lower levels of education. People with higher levels of education, however, have lower odds of receiving Social Security benefits. Unmarried Black and Hispanic individuals have lower non-housing wealth and Social Security income compared with unmarried Whites. Those who retired young, under age 62, or between age 64 and 65, have more non-housing wealth compared to those who retired at ages 62 or 63. People who retired under age 62 also have more employer-sponsored pension income, while people who retired at later ages (64 and older) have higher odds of receiving Social Security benefits compared to people who retired at ages 62 or 63. Finally, similar to married individuals, unmarried people who own a home have more Social Security income and non-housing wealth, and higher odds of receiving an employer pension than people who do not own a home.

The relationship between unmarried respondents' work history and retirement security is similar to the relationship observed for the married sample. The length of an unmarried person's longest job tenure is associated with higher odds of receiving an employer-sponsored pension, and is associated with more pension income and non-housing wealth. It appears the total number of years worked is positively related to Social Security income for unmarried respondents, but has no relationship to the other retirement resources. Individuals who reported experiencing a voluntary or partly voluntary retirement have higher odds of receiving Social Security benefits compared to those who experienced an involuntary retirement. People who reported a voluntary retirement also have higher odds of pension receipt, and more pension income and non-housing wealth than people who reported an involuntary retirement. Individuals with an employer-sponsored health insurance plan have higher odds of receiving a pension, and have more pension income and non-housing wealth compared to people without employer health insurance.

Unmarried respondents in excellent, very good, or good health have higher non-housing wealth compared to persons in fair/poor health. People in good health also have higher odds of receiving Social Security benefits and pension benefits, and have more pension income compared to people in fair/poor health. Individuals with the presence of IADLs have less non-housing wealth and lower odds of receiving Social Security benefits compared to those who do not have IADL difficulties.

In terms of family variables, unmarried respondents with children living in the house have lower non-housing wealth than those without resident children. In terms of

childrearing for the unmarried sample, people who were between the ages of 15 and 19 when their first child was born have lower pension income compared to those who had their first child at age 26 or older.

Table 23. Binomial logistic regression models for unmarried respondents, all control variables and basic marital status (odds ratios)

	Dependent Variable	
	Social Security Binomial	Pension Binomial
Divorced from 1 <sup>st</sup> marriage	0.908	0.682 *
Divorced, multiple marriages	0.622	0.584 **
Widowed, multiple marriages	2.987 +	0.788
Never married	0.724	0.683
Female	0.662	0.941
Black	0.912	1.052
Hispanic	0.829	1.300
Other race	0.332	2.382
School Years (0-17)	0.822 **	1.074 **
Retirement age <62	--	1.025
Retirement age 64-65	4.043 **	1.178
Retirement age >65	15.590 ***	1.185
Longest job tenure	0.985	1.023 *
Total years worked	0.997	0.999
Voluntary retirement	3.411 ***	1.542 **
Partially voluntary retirement	5.725 *	1.688 +
First child as a teen	1.256	1.264
First child age 20-25	0.781	1.192
Number of living children	0.989	0.970
No resident children	0.889	0.841
ADLs dummy	1.427	0.991
IADLS dummy	0.299 *	0.735
Employer health insurance	0.982	3.657 ***
Medicare	0.560	1.150
Respondent health is excellent	1.353	0.853
Respondent health is very good	1.738	1.313
Respondent health is good	2.045 *	1.694 *
Homeownership	1.472	1.645 **
War Babies cohort	0.231 +	0.653
Retired in wave 3	2.378	0.662
Retired in wave 4	1.039	0.795
Retired in wave 5	0.447	0.472 **
Retired in wave 6	1.566	0.661
Retired in wave 7	1.547	0.594 +
Retired in wave 8	3.865	0.900
Retired in wave 9	0.899	0.316 **
	N	723
	F	6.08 ***
		1,047
		7.74 ***

Reference groups: Widowed from first marriage, White, age 62-63, retirement not voluntary, first child at age 26+, respondent health is poor, retired in wave 2. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

Table 24. Linear regression models for unmarried respondents, all control variables and basic marital status (coefficients)

	Dependent Variable			
	Social Security Income		Pension and Annuity Income	Non-Housing Wealth
Divorced from 1 <sup>st</sup> marriage	0.003		0.025	-0.230 *
Divorced, multiple marriages	-0.151 **		0.192	-0.397 *
Widowed, multiple marriages	0.027		-0.011	-0.105
Never married	-0.052		0.044	-0.474 **
Female	-0.147 ***		-0.092	-0.398 **
Black	-0.093 *		0.070	-1.275 ***
Hispanic	-0.144 **		0.013	-0.799 **
Other race	-0.102		0.312	-0.128
School Years (0-17)	0.022 **		0.129 ***	0.168 ***
Retirement age <62	--		0.359 ***	0.414 **
Retirement age 64-65	0.000		0.050	0.567 **
Retirement age >65	0.035		0.253 +	0.367 +
Longest job tenure	0.000		0.018 ***	0.016 **
Total years worked	0.004 *		0.000	-0.004
Voluntary retirement	0.033		0.274 **	0.449 **
Partially voluntary retirement	0.035		0.141	-0.038
First child as a teen	0.028		-0.247 *	-0.140
First child age 20-25	0.043		-0.026	0.081
Number of living children	0.003		0.002	-0.069 +
No resident children	-0.034		-0.037	0.251 *
ADLs dummy	-0.099 +		-0.097	-0.220
IADLS dummy	0.016		0.223 +	-0.634 **
Employer health insurance	0.019		0.303 **	0.534 ***
Medicare	-0.029		-0.103	0.160
Respondent health is excellent	0.043		0.079	0.749 ***
Respondent health is very good	0.016		0.264 *	0.436 **
Respondent health is good	0.013		0.210 *	0.347 **
Homeownership	0.142 ***		-0.006	0.917 ***
War Babies cohort	-0.131		0.109	0.194
Retired in wave 3	0.024		0.035	-0.315
Retired in wave 4	0.033		0.039	0.013
Retired in wave 5	0.152 *		0.088	-0.099
Retired in wave 6	0.286 ***		0.203	-0.005
Retired in wave 7	0.297 ***		0.396 **	-0.019
Retired in wave 8	0.415 ***		0.416 *	0.214
Retired in wave 9	0.253 **		0.138	-0.147
_constant	1.776 ***		-0.524 +	0.075
	N	653	533	1,047
	F	11.39 ***	21.22 ***	44.31 ***
	R-Squared	0.277	0.415	0.462

Reference groups: Widowed from first marriage, White, age 62-63, retirement not voluntary, first child at age 26+, respondent health is poor, retired in wave 2. <0.001 = \*\*\*; <0.010 = \*\*, <0.050 = \*, <0.100 = +.

## **Results Summary**

The analyses suggest that marital history is associated with each retirement resource in a different way, and that there are differences in marital history's relationship to these resources by whether the person is currently married or unmarried. The study also finds a number of gender differences in how marital history relates to retirement income and wealth.

For the married sample, married men's retirement resources have no relationship to the marital pathways they experienced before retirement. The retirement security of married women, however, is associated with marital history; women who had shorter marriages have more Social Security and pension income compared to those women who remained continuously married into retirement. This result is in the opposite direction than expected. Overall, these findings may suggest that for people who are married or remarried, marital history's relationship to their retirement security is limited.

For the unmarried sample, both men and women's marital histories have a relationship to their retirement resources. Examining within group differences by removing the confounding married to unmarried comparison appears to be a successful strategy. The findings indicate that marital history does not relate to all unmarried people's retirement resources the same way. Never marrieds, divorcees, and people who had multiple previous marriages have less retirement resources than widow(er)s. How long an unmarried person was married prior to becoming single also has a strong relationship to retirement resources and this relationship is moderated by gender. Further discussion of these findings will be presented in the next chapter.

## CHAPTER 6

### DISCUSSION AND CONCLUSION

Both marriage and retirement are important life events whose normative pathways have become less and less standard over time. The establishment of most of our social policies and provisions related to the institutions of marriage and retirement occurred well over a half a century ago, and was based on the behaviors of people and families living at that time. Since that time, these behaviors shifted and became less uniform, which resulted in increasingly outdated and inadequate retirement systems. As the experience of having a single, lifelong marriage became less common, marital experiences became increasingly varied. For one thing, marriage rates declined: a growing number of people chose not to marry and options like cohabitation were more widely accepted by society. In addition, people delayed marriage, stayed unmarried for longer, and remarried less often. The average time a person spent married, therefore, was also decreasing. Conversations regarding the degradation of marriage flourished in politics, religion, and social discourse. People attempted to understand why these marital changes occurred, yet the situation could not be ignored; this variation in marital history was unlike any we had seen among previous generations. Current research confirms that, in fact, the next population of retirees will have the most diverse marital history of any

generation (Cherlin, 1992; Goldstein & Kenney, 2001; Harrington Meyer et al., 2006; Kreider & Ellis, 2011; Ruggles, 1997).

Just as we are seeing the populations who experienced these marital shifts enter into old age, research focused on the relationship between marriage and retirement has faded. Research in this area peaked between the 1980s and 2000s. Today, marriage is typically included in studies as a status, effectively ignoring the substantial variability that has grown within married and unmarried groups. The literature has arguably lacked a thorough and systematic investigation of the relationship between work, family, and retirement pathways (Szinovacz et al., 2012). Learning from the experiences of current retirees is therefore vital to understanding whether complex marital histories have a relationship to their ability to amass sufficient financial resources for retirement. Exploring how inequalities associated with marital status, gender, and family formation accumulate over the life course increases our knowledge of the relationship between family life and retirement security, and can help to improve our retirement policies and mechanisms for saving.

### **Study Significance**

The purpose of this research was to explore how marital changes over the life course relate to retirement resources (i.e. savings, Social Security, and pensions), and whether the relationships differ for men and women. Several studies investigating the relationship between marriage pathways and wealth accumulation provided valuable information on the connection between marriage and personal finances (Angel et al., 2007; Ulker, 2009; Wilmoth & Koso, 2002; Zissimopoulos, 2009; Zissimopoulos et al.,

2008). The relationship between specific marital history factors and retirement resources such as Social Security and pensions had yet to receive the same attention. Within-group differences among married and unmarried populations were also largely ignored, and there was limited literature on the influence of marriage formation and/or dissolution and its relationship to retirement finances.

This study made a significant contribution to the literature in several ways. First, this study was one of the few studies to analyze several marital history factors and to systematically examine the within-group differences of married and unmarried retirees in order to avoid multi-collinearity issues. The life course perspective and cumulative advantage/disadvantage theory, discussed in detail in Chapter 3, both strongly suggest that married and unmarried people have different life pathways and experience different levels of advantage and disadvantage related to their marital decisions. Researchers have established that unmarried people are economically disadvantaged relative to married people (Lin & Brown, 2012), but the differences between the continuously married and the remarried, and the variability in economic vulnerability among unmarried groups is less understood. Though being unmarried puts people at an economic disadvantage, some scholars argue that this finding is misconstrued and that authors' interpretations of the benefits of marriage often "imply that if divorced people had only remained married they would experience economic circumstances similar to married people" (Smock et al., 1999, p. 809). Work in this area is still needed in order to develop a better understanding of the complexity of the family-work-retirement relationship (Smock et al., 1999; Szinovacz, 2012). This study conducted all analyses separately by married and unmarried

status, and considered within group differences by gender, which was imperative for discussing any family-work life relationship.

Second, the present study was methodologically distinct from much of the previous literature on marital history and wealth because it explored the financial situation of individuals at retirement, rather than during their working years. This approach was important for a number of reasons. First, people often misrepresent the amount of benefits they will actually receive in retirement and generally overestimate their financial resources (Ekerdt & Hackney, 2002; Gustman & Steinmeier, 2001). They are also likely to increase retirement planning and financial contributions the closer they get to retirement age (Ekerdt et al., 2000). This suggests that examining the retirement income of working individuals, particularly those under age 60, may provide an inaccurate measure of retirement resources. The present study analyzed a narrowly defined group of retirees within the first years of retirement in order to capture a full picture of available resources before a major “spend down.” One of the tangential discoveries from doing this research was that many people do not begin collecting their Social Security benefits immediately at retirement, though most people still claim benefits early at age 62 (Sass, Sun, & Webb, 2007). Many of these individuals are not receiving Social Security benefits because they retired before age 62 and are thus unable to begin withdrawal (N = 706). This is not uncommon, and previous research on the reasons behind delaying Social Security benefits indicates that about 40 percent of eligible women postpone receipt (McNamara, O’Grady-LeShane, & Williamson, 2003b) and may intentionally delay collecting benefits in order to increase the final benefit

amount (Munnell, Sass, Golub-Sass, & Karamcheva, 2009; Social Security Administration, 2008). One study found that about 10 percent of men chose to retire early but delayed benefits for at least a year after they were eligible (Coile, Diamond, Gruber, & Jousten, 2002). The timing of claiming benefits appears to be influenced by education, health, and wealth (Benitez-Silva & Heiland, 2008; Coile et al., 2002).

The final major contribution of this study was the examination of all three sources of retirement income by marital history. The results suggested that, in fact, each retirement resource had a different relationship to a person's marital past. Consistent with the current literature, more marital disruptions and shorter marriages were associated with lower wealth accumulation for both married and unmarried individuals (Holden & Kuo, 1996; Wilmoth & Koso, 2002). Marital status also mattered; never married men were the most disadvantaged group among the unmarried men, while remarried widows were better off compared to continuously married women among the married groups. While other studies have confirmed the findings that marital status and duration have a relationship to wealth accumulation, this study expanded on this information by examining Social Security and employer-sponsored pension income as well. There was a significant relationship between the marital history of the unmarried groups and Social Security income. Never married men and women, and divorced women with multiple past marriages had fewer Social Security benefits than widow(er)s. Unmarried respondents' longest marriage also had a positive relationship to Social Security income. Furthermore, this was the only model where the timing of marital disruptions appeared to matter; unmarried individuals who became widowed earlier in life had less Social

Security income than those widowed after age 50 and those divorced in mid-life between ages 30 and 49 (73% of these early widow(er)s never remarried).

Though pension income was the retirement resource with the fewest associations to marital history factors, there was still a relationship between marital duration and the probability of pension receipt for women. Married women with shorter marriages had higher odds of receiving a pension, but unmarried women with shorter marriage had lower odds compared to women with longer marriages. There was also a strong relationship between marital status and pension receipt; no matter when in life the disruption occurred, divorcees had lower odds of receiving a pension compared to widow(er)s. This was likely because marital assets were not divided following widowhood, like in the case of a divorce. The never marrieds, however, were also at a disadvantage and had the lowest odds of receiving pension benefits. Though each of the retirement resources had a different relationship to marital history, taken together several themes emerged. This study's research limitations are discussed next, followed by a summary of the findings and their relationship to the study hypotheses. A detailed discussion of the major themes to emerge from these results is presented in the following section.

### **Research Limitations**

The work from this analysis will illuminate whether marital events of the past are associated with retirement security but, as with any research, the study has some limitations. First, this analysis used cross-sectional data which limited the interpretation of results. For example, marital status is a temporary state for many individuals, and this

study's division of married and unmarried groups for the analyses may limit interpretation of the findings. Alternative approaches to the analyses may enhance the work of this dissertation, including longitudinal analysis of marital events and their relationship to retirement resources in order to understand the gains and losses associated with marital changes over time. Typological analysis may also guide the interpretation of this study's findings through the development of a set of categorizations of marital history pathways. Such typologies may help focus the analysis on certain marital groups, avoid multicollinearity issues related to different marital history factors, enhance our understanding of selection effects, and sort out causal links between marital history and retirement resources.

Second, marital history data were collected using retrospective data collection techniques, meaning answers were dependent on a respondent's memory of past events and dates. A survey researcher asked the respondent to recall past events and dates in order to build the history. Recall bias is an inherent limitation of using retrospective data. Since the HRS only began in 1992, however, there was no other way to determine marital history information without a time consuming investigation of all marriage licenses, divorce papers, and spousal death records for each respondent.

Third, this study explored individuals' retirement income and assets at the start of their retirement, which posed several limitations. Respondents who elected not to apply for benefits had no income coming from Social Security or pensions, though they may possess these income sources in the future. This research treated individuals who delay benefits the same as those who will never receive a benefit, which limited the

generalizability of the findings. The strict definition of retirement used in this study excluded partial-retirees and those individual who simply never self-identify as “retired.” This exclusion may have biased the results or underrepresented people who were healthier, more educated, and willing and able to work in old age (Giandrea et al., 2007). It could have also excluded disabled minorities; since some research indicates Black Americans with disabilities do not identify as retirees in later-life (Gibson, 1991). The Baby Boomer cohort was also excluded from analysis because of their age. Further study will be needed to determine if conclusions drawn from this work can translate to this cohort.

Finally, some researchers hypothesized that the personal characteristics that predict marital disruptions or remaining never married were the same factors that predict low earning potential (Booth & Edwards, 1992). This important concept should be addressed in future research but requires longitudinal analysis of employment and assets, and was beyond the scope of this research. Given these limitations, this research made a significant contribution to the literature and broadened our knowledge on marital history and retirement resources in several major areas.

### **Summary of the Research Hypotheses**

I explored whether certain marital history factors had any relationship to Social Security, employer-sponsored pensions, and non-housing wealth. Married and unmarried respondents were separated in the analyses, which allowed the complexities of marital history to manifest in the results. The first study objective was to examine the relationship between retirement security and marital statuses and transitions. Three

hypotheses were derived from this research objective. Hypothesis 1 (H1) stated that among the married sample, those who experienced a prior marital disruption would have less retirement income and assets than those who have been continuously married. H1 was not supported by the results and, for Social Security income, the results were in the opposite direction than expected. The relationship observed between marital status and Social Security income suggested that remarried widow(er)s had more Social Security benefits than the continuously married.

Hypothesis 2 (H2) stated that individuals with more marital disruptions would have less retirement income and assets than those who had experienced one disruption. The results provided support for H2, specifically in relation to non-housing wealth. Among the unmarried groups, widowers with multiple previous marriages had less non-housing wealth than widowers who were married once. With regard to Social Security, the results were more complex; currently divorced women with multiple marital disruptions had less Social Security income compared to women widowed once. People currently widowed after multiple marital disruptions, in contrast, had more Social Security income than people widowed once.

Hypothesis 3 (H3) stated that the reduction in retirement income and assets associated with marital disruptions would be greater for those who experienced divorce than all other marital statuses. The results generally supported H3 however, a gender relationship was observed. Divorced women with multiple past disruptions received less Social Security income than women widowed from their first marriage. For men, divorced men had slightly lower odds of receiving an employer-sponsored pension

compared to widowed men. The disruption timing models further supported these results by indicating that respondents who were divorced in mid-life (age 30-49) or later-life (age 50 or older) had lower odds of receiving a pension compared to people widowed at age 50 or older.

The second study objective was to examine whether marital duration had a relationship to retirement resources. Specifically, Hypothesis 4 (H4) stated that individuals who spent a greater proportion of their lives married would have more retirement income and assets. Hypothesis 5 (H5) stated that marriage stability would be positively related to retirement security, so those with longer marriages would have more income and assets than those in shorter marriages. Based on the findings, marital duration was the marital history factor with the most associations with retirement resources. Three variables represented marriage duration: the proportion of a respondent's lifetime spent married, the length of a respondent's first marriage, and the length of a respondent's longest marriage. Each of these variables had a significant relationship to at least one retirement resource (i.e., Social Security, employer-sponsored pensions, and non-housing wealth). For the unmarried population, all three resources were related to the marital duration variables. For unmarried respondents, length of longest marriage was negatively related to the odds of receiving an employer-sponsored pension. Social Security income and non-housing wealth, in contrast, were positively related to unmarried individuals' length of longest marriage. With regard to married respondents, there was a positive relationship between marriage duration and non-housing wealth. The relationship, however, was in the opposite direction than expected for currently married women with

regard to their Social Security income and employer-sponsored pension income. This unexpected finding is further explored in the “Major Findings” section below.

Examining a relationship between the timing of marital transitions and retirement income sources was the third study objective. There was no support for Hypothesis 6, which suggested that people who got married earlier in life would have more retirement income than people who got married at later ages. Hypothesis 7 (H7) stated that people who experienced their first marital disruption later in life would have less retirement income and assets than those who became unmarried earlier in life. The results provided support for H7 with regard to pension receipt. As mentioned above on H3 related to divorce, people who were divorced in mid-life (age 30-49) or later-life (age 50 or older) had lower odds of receiving a pension compared to those widowed at age 50 or older. These results could have more to do with divorce itself than with the timing of the disruption. The results suggested the opposite relationship than what was proposed in H7, however, with regard to the Social Security income of unmarried respondents. Unmarried people who experienced widowhood before age 50 had less Social Security income than people who were widowed after age 50 and people who were divorced in mid-life (age 30-49). Early divorcees (i.e., divorced before age 30) also had less Social Security income than people who were divorced between ages 30 and 49. For the married sample, the results were also unexpected. People widowed before age 50 had more Social Security income and non-housing wealth compared to the continuously married.

Finally, the fourth study objective was to examine whether the relationships between retirement resources and marital history differed by gender. Hypothesis 8 (H8)

stated that the loss in retirement income associated with marital disruptions would be greater for women than men. Hypothesis 9 (H9) stated that never married men would have less retirement income and never married women would have more relative to other unmarried men and women. The majority of the results supported H8, that women's marital histories would have more associations with their retirement resources than men's. For married men, for example, there was almost no relationship between the marital history factors studied and Social Security, employer-sponsored pensions, and non-housing wealth. For married women, the results suggested their marital histories played a role in the accumulation of retirement resources, but the association was not in the direction predicted (see Major Findings). For unmarried men and women, marital histories had a relationship to retirement resources but in different ways. Unmarried women who were divorced after multiple past marriages had less Social Security income compared to women who were widowed from their first marriage. Never married men were worse off than other unmarried men on Social Security income, pension benefits, and non-housing wealth, which provided support for H9. Taken together several themes emerged from these study results. A detailed discussion of these major themes is presented next.

### **Major Findings**

Though there were a number of significant findings in this study, the four most important themes will be described in the context of existing literature below. The first major finding suggested that marital duration was the marital history factor with the most associations with retirement resources; however, the relationship was complex. Second,

contrary to the hypotheses that stated a complex marital history would disadvantage retirees, this research indicated currently married women *benefit* from having shorter marriages. Third, this work improved our understanding of the retirement security of never married people and the results suggested that never married men were a particularly disadvantaged population. In fact, never married men were statistically worse off than other unmarried men on all three retirement resources tested. Finally, this study highlighted the negative consequences of divorce on retirement security and found that divorcees had less retirement resources than widow(er)s. If divorced individuals are inherently disadvantaged, regardless of when in the life course the marital disruption occurs, this may have important practical and policy implications. Each of these major findings will be discussed in detail below.

### **Getting and Staying Married: Marriage Duration Plays the Largest Role**

Based on previous literature examining marital history and wealth, I hypothesized that marriage duration would be positively related to Social Security, employer-sponsored pensions, and non-housing wealth. The results confirmed that the longer individuals were married the more financial resources they had, with the exception of currently married women. Married men benefitted from having a longer marriage or spending a greater proportion of their lifetime married. For unmarried individuals, men and women who had longer marriages prior to becoming unmarried had more in Social Security income and non-housing wealth, and higher odds of receiving a pension compared to unmarried men and women with shorter marriages. For currently married women, however, the relationship between marriage duration and retirement resources

was negative for Social Security and pension income; therefore, the special case of married and remarried women will be discussed in the next section.

Wealth accumulation is typically a lifelong process and, therefore, it may not be surprising that research overwhelmingly indicates stable marriages produce more wealth (Dechter, 1992; Guner & Knowles, 2003; Loughran & Zissimopoulos, 2008; Ulker, 2009; van Eeden-Moorefield, Pasley, Dolan, & Engel, 2007; Wilmoth & Koso, 2002; Zissimopoulos et al., 2008). The present study's examination of non-housing wealth provided additional support and showed a strong positive relationship between the proportion of lifetime spent married and non-housing wealth. Building upon this literature, this study also found that people with longer marriages had more Social Security income and higher odds of receiving employer-sponsored pensions.

For Social Security benefits, the proportion of lifetime spent married was positively associated with Social Security income for both married men and for unmarried men and women. In other words, individuals who lived in a state of marriage for longer have more Social Security income. Remember that the sample for the Social Security income models only included individuals receiving a benefit. Marital duration should be related to Social Security benefits, since marriage length would increase the worker's benefits if her own work history produced a benefit that was less than 50 percent of her spouse's. The findings from this study confirmed this assumption; marriage duration had a positive association with Social Security income. For both married and unmarried men, this may have had more to do with the relationship between family life and work history than marriage length per se. Studies have observed a positive

relationship between men's marriage stability and their income and career attainment(Burstein, 2007). Thus, even those currently unmarried may have benefitted from their previous years spent married. Men who were married for longer had more time to accumulate advantages associated with marriage.

For both married and unmarried women, those who were married longer before retirement age may have received more in benefits from their spouses' or previous spouses' retirement resources than their own. Spouse and widow benefits remain a major source of income for older women (Favreault & Steuerle, 2007; Harrington Meyer et al., 2006; Tamborini & Whitman, 2007). This study found, however, that this was only true for the unmarried women; unmarried women whose first marriage lasted less than 15 years had lower odds of receiving an employer-sponsored pension compared to women whose first marriage was 30 years or longer. The combination of findings on unmarried women's Social Security and pension benefits suggested that the time they spent married prior to becoming single had a major relationship to their retirement security.

A significant statistical issue surrounding marriage duration, however, relates to selectivity; wealthier people are more likely to get and stay married. Marriage stability is related to higher earnings (Bergstrom & Schoeni, 1996; Guner & Knowles, 2003) and higher education (Isen & Stevenson, 2010). Wealthier individuals are also more likely to remarry, and they remarry sooner following a marital disruption (Vespa, 2012). While older research suggests that financially independent women are more likely to divorce and less likely to remarry than women who are financially dependent on their husbands (Dechter, 1992; Ono & Stafford, 2001), more recent literature actually indicates the

opposite relationship (Isen & Stevenson, 2010; Ozcan & Breen, 2012). An important exception to this discussion was the finding that there was a negative relationship between marriage length and married women's retirement resources. The selection effect issue and the finding that continuously married women were actually disadvantaged with regard to their individual retirement resources will be addressed next.

### **Less Retirement Resources for Continuously Married Women**

For married women, marital history's relationship to wealth was in the direction expected and supported existing literature. Marital disruptions damage the wealth and asset accumulation of individuals so that people who were married for a shorter amount of time, as discussed above, have less wealth and the benefits gained by remarriage are arguably minimal (Western, Bloome, Sosnaud, & Tach, 2012; Wilmoth & Koso, 2002; Zissimopoulos et al., 2008). A less studied area of retirement security, however, is the Social Security and employer-sponsored pension income of remarried persons. The present study focused on these resources, and a detailed marital history analysis revealed unanticipated findings with regard to currently married women.

Compared to their continuously married counterparts, remarried women were taking home more Social Security and employer-sponsored pension income. First, married women whose longest marriage lasted between 10 to 29 years were receiving more in Social Security benefits than women with a longest marriage lasting over 40 years. This result was supported by the negative relationship between the proportion of a married woman's lifetime spent married and her Social Security income. Gender-specific analyses provided further support and showed that women with late-life disruptions who

remarried before retirement received more Social Security income than continuously married women. With regard to employer-sponsored pension income, women with a first marriage length of 15 to 29 years had more pension income than those women whose first marriage was 30 years or more. There is limited literature to directly support or refute these Social Security and pension findings, as the focus has been primarily on understanding remarriage's relationship to wealth; however, decades of research on marriage and retirement help to illuminate these findings.

Despite the increase in women's labor force participation, women continue to have lower earnings and are more likely to be working part-time or to take time away from their career to care for family members than men (Bovbjerg, 2012; Budig & England, 2001; GAO, 2012; Szinovacz et al., 2001). Research also suggests women contribute to pension plans at lower rates than men (GAO, 2012) or are less likely to participate, though this may be changing for younger generations (Hardy & Shuey, 2000; Shuey & O'Rand, 2006). Yet a growing body of work has begun to differentiate between married and remarried women, and is finding that there are benefits to remarriage, and that these benefits may be substantial even above and beyond remaining continuously married.

There are economic benefits attained from remarriage, and these benefits are stronger for women than men (Ozawa & Yoon, 2002; van Eeden-Moorefield et al., 2007). One study found that the financial benefits of remarriage outweigh the benefits associated with returning to the labor force for unmarried women (Jansen, Mortelmans, & Snoeckx, 2009). Similar to the present study, some scholars have found that remarried

women have more wealth than the continuously married (Zissimopoulos, 2009) or that the wealth difference is small enough to suggest remarriage mitigates the financial loss associated with a marital disruption (Ulker, 2009). There is, however, a relationship between wealth and marital status, and remarried women may in fact have more retirement income and assets because they are marrying men who are wealthier and/or have more retirement benefits than their previous husbands (Vespa, 2012). This study provided additional evidence that remarried women have more retirement resources, but this was only true for remarried widows. Since widows often have pension income and other marital assets from their previous marriage that they can contribute to the new marriage, it is reasonable that widows who remarried before retirement age would have more retirement resources than their continuously married counterparts.

This relationship between marital status and wealth indicates a possible selection effect related to who remarries after marriage dissolution. Women are less likely than men to remarry after becoming divorced or widowed, and in general they prefer to stay single (Stevens, 2002; Talbot, 1998; Karlsson & Borell, 2005). As previously discussed, wealthier people are more likely to remarry and take less time to do so. In fact, one study suggests a relationship between a woman's age at disruption and her remarriage timing that is moderated by her socioeconomic status; women who are wealthier and more educated appear to delay remarriage if they are younger, but accelerate remarriage if they are older (Sweeney, 1997). In other words, for women separating at younger ages, having a higher occupational status or education level means they are more likely to wait to remarry and may broaden their search for a partner. Older women with higher

socioeconomic status are more likely to remarry quickly than women in low socioeconomic standing, and this may be related to their ability to attract a mate (Oppenheimer & Lew, 1995).

Marriage markets appear to play a role in marital choices and, sequentially, remarriage rates. Favorable marriage markets, typically measured by the ratio of men to women, increase the likelihood that a woman will marry a man with more education and a higher occupational status. In fact, women in unfavorable marriage markets are more likely to forgo marriage entirely than to marry a man with low socioeconomic status (Harknett, 2008; Lichter, Anderson, & Hayward, 1995). Researchers suggest that this has something to do with people's disinclination to marry heterogamously (i.e., marry someone with sociocultural traits different from their own). There is unwillingness, among women but not men, to lower their standards and consider a wider range of marital prospects when the pool is limited (Lichter et al., 1995; Stone, Shackelford, & Buss, 2007). It is important to note, especially when considering the application of these findings to remarriage, that the study samples yielding these findings are typically based on individuals between the ages of 18 and 30 years.

A descriptive analysis of currently married women's detailed marital status by select characteristics (Table 25) shows that remarried women who had multiple past marriages tend to be White (91.5%) and have longer work histories than other married women (36.3 total years of employment compared to 30.0 years for continuously married women). Though these characteristics were controlled in the analyses, other socioeconomic factors associated with race and work history, such as earnings, were not

controlled. It is possible that privileged, higher paid women self-selected into the remarried category or that they have more favorable marriage markets. For example, compared to their White counterparts, research suggests that single Black women have a shorter supply of “marriageable” Black partners (Hamilton, Goldsmith, & Darity, 2009) and are less likely to marry and stay married (Sweeney & Phillips, 2004). Additional research on the relationship between wealth, race, and marriage patterns confirms that there are major disparities in marital history among Black and White women, but that the differences in marital history cannot solely explain differences in wealth holdings in later life (Addo & Lichter, 2013). This may be because, though there are racial disparities in accumulated wealth, elderly Black women are less economically dependent on their deceased husband’s pension or wealth than White women (Tamborini et al., 2009).

Though women are less likely to remarry than men, if they remarry, women tend to partner with men who are older and wealthier than their first spouses (Shafer & James, 2103; Vespa, 2012). This suggests a potential increase to their financial resources that would not be possible if they remained in their previous marriage. Women who experienced divorce financially benefit from remarriage and, in particular, those women who had low incomes in their first marriages may gain the most from remarrying (Dewilde & Uunk, 2008; Holden & Smock, 1991). Thus, when comparing continuously married and remarried low-income women, if women do generally “marry up” in their second marriage with greater frequency than in first marriages, the gains from remarriage may be even greater for these low-income women. In other words, the saying, “the first time you marry for love, the second for money,” may be a concept that partially explains

why remarried women have more retirement resources than their continuously married counterparts.

Compounded with the finding that women marry wealthier men the second time around, remarried women, particularly widows, have the benefit of adding any wealth and assets obtained from their previous marriage to the financial resources of the new marriage. This study found that remarried widows had more Social Security income than continuously married women, which may be related to a higher benefit amount from their current spouse as well as the possibility of receiving benefits from both their previous and current marriage. Certain groups of older women may also be more knowledgeable about remarriage penalties and plan for remarriage accordingly. For example, one study found an uptick in remarriage after age 60 so that widows could receive Social Security benefits based on their previous spouse's work history (Brien, Dickert-Conlin, & Weaver, 2004). Though this research cannot determine whether remarriage occurred after age 60, frequencies do show that 26 percent of remarried widows became widowed after age 50. This suggests it is possible that several are receiving benefits from both their deceased spouse and their current spouse.

Remarried women may also develop a stronger attachment to the labor force, and therefore have higher income and wealth than continuously married women. Though divorced women have less worth (Mammen, 2008), a number of studies find women who experienced divorce have more years of employment (Lillard & Waite, 2000) and higher earnings than other married and unmarried women (Tamborini, Iams, & Reznik, 2012). A descriptive analysis of currently married women's marital status by work history

characteristics (Table 25) shows that, for this sample, continuously married women have the fewest total years of employment, while remarried women with multiple past marriages have, on average, the most years of employment. Recent studies indicate marital disruptions have less of an economic impact than they used to (McKeever & Wolfinger, 2001) and one study actually suggests previous findings on the disastrous economic consequences of divorce were highly inflated (Peterson, 1996). Researchers have also found that continuously married dual-earners are increasingly ineligible for Social Security spousal benefits because their own earnings are too high (Butrica & Smith, 2012a; Harrington Meyer et al., 2006; Iams & Tamborini, 2012). Thus, part of the reason remarried women have more retirement resources may be related to their work history and potentially greater attachment to the labor force.

The retirement literature on currently divorced and widowed women finds important financial disadvantages relative to married women, yet the distinction between being continuously married or remarried must be further explored in future research. Remarriage is not a universal phenomenon, and it is distinctly different than a first marriage because it occurs later in the life course and people bring with them the unique experience of a failed first marriage (Sweeney, 1997). The present study suggests that women with longer marriages may have less of a work history and less retirement resources than women with shorter marriages. For the unmarried women, the results may indicate that remarriage is the best way to alleviate the economic consequences associated with marital disruptions.

### **Financial Shortcomings for the Never Married**

This study illuminated the retirement security of an understudied population, the never married, in comparison to other unmarried groups. Similar to other research, the descriptive analysis showed that being never married in retirement was an uncommon marital pathway, and its occurrence was more common among men than women (Kreider & Ellis, 2011). Based on the relatively limited literature on never married people's retirement security, I hypothesized that never married people would have significantly less retirement resources than other unmarried groups, but that the relationship would vary by gender. Specifically, unmarried men were expected to have less retirement income and women to have more relative to other unmarried men and women. The results supported the hypothesis for never married men but there was less support for the hypothesis for never married women.

Compared to other unmarried groups, the never married had the lowest predicted probability of receiving both Social Security benefits and an employer-sponsored pension. Though there was no difference in the actual dollar amounts for those who did take home these benefits, the results indicated that never married people were less likely to have a benefit in the first place. Literature on this subject is limited but generally suggests that the never marrieds are economically vulnerable in old age, particularly never married men (Tamborini, 2007; Zissimopoulos et al., 2008); however, some studies indicate this may be due to a selection effect. Characteristics related to the likelihood of a person getting married include higher education, earnings, and wealth suggesting never

married individuals may be disproportionately in a low socioeconomic status (White & Rogers, 2000).

With regard to Social Security receipt, the nature of the entitlement program is one based on both work history and marital history. Yet regardless of their marital status, employees all pay 6.2% of their wages into the system. Given that Social Security provides not only a worker's benefit but a spousal benefit when the employee becomes either disabled, retired, or deceased there is an obvious benefit for individuals who are or were married (for at least 10 years for divorcees). These auxiliary benefits have represented an important source of financial security for older divorced and widowed people. This research suggested that never married people were the least likely to receive a benefit, and therefore the population should receive greater attention in the Social Security literature.

For pension receipt, more and more companies are shifting to defined contribution plans, but the majority of retirees in this sample is from a generation that primarily receives defined benefit pensions. Defined benefit pensions generally pay the employee a benefit, and then provide a benefit to his or her spouse after the retiree is deceased (Larson & Larson, 2008). Access to a spousal pension means the person was married, which is obviously not the case for never married individuals. Consequently, currently widowed and divorced individuals are expected to be more likely to possess a defined benefit pension than their never married counterparts. Previous literature anticipated the likelihood of lower rates of pension receipt for never married retirees (Tamborini, 2007)

but the present study was one of the few to support this prediction and showed a statistically significant relationship.

In addition to the lower probability of receiving Social Security benefits and an employer-sponsored pension, this research found that never married people also possessed less non-housing wealth compared to all other unmarried groups. Again, research on this subject is limited and the findings are mixed. While several scholars also find that the never married have less wealth, savings, or net worth than other unmarried people (Lee & Rowley, 2009), some studies suggest never married people are financially better off than the divorced (Choi, 1996). This difference in findings may have something to do with the generation studied, and the growing number of people who are choosing never to marry. These younger never married individuals are found to have a higher level of education and socioeconomic status compared to other unmarried groups (Kreider & Ellis, 2011; Lin & Brown, 2012). Never married Baby Boomers, for example, had the highest levels of education compared to other unmarried Boomers (Lin & Brown, 2012).

The differences between never married men and never married women compared to other unmarried groups may partially explain the conflicting findings from previous research. This study found, as others have, that there were different economic outcomes related to being a never married man versus a never married woman. Never married men had less Social Security income and non-housing wealth than other unmarried men. They also had the lowest odds of receiving an employer-sponsored pension, and this was supported by other research (Tamborini, 2007; Yabiku, 2000). Table 26 presents a descriptive analysis of unmarried respondents' detailed marital status by gender and

selected characteristics, and reveals that never married men have the shortest average work history than all other unmarried men. They are also retiring at earlier ages, on average, and this may partially explain why they are financially disadvantaged in retirement compared to other unmarried men.

Tamborini (2007) conducted a focused analysis of the retirement resources of never married seniors and the results from his work closely match the present study's findings. His study found that only 25% of never married men were taking home a work pension, the lowest proportion receiving a pension among unmarried men. He also found that never married men had the lowest median Social Security benefit of all unmarried men. Yabiku's research (2000) further supported the finding that never married men had lower odds of receiving an employer-sponsored pension but he compared this population to continuously married men. As these authors stress in their papers, research on the economics of being unmarried has focused primarily on women, and specifically on women who experienced divorce or widowhood. The importance of their work and the present study's results suggest that never married men are a similarly disadvantaged group and need to be a major focus for future research.

The only significant finding for never married women suggested that they have less non-housing wealth compared to other unmarried respondents with a marriage that lasted 40 years or more, which contradicted the hypothesis and previous research. The result may be due to the generation studied. Recent research on the Baby Boomer cohort suggested that never married women were doing better financially than other unmarried women (Tamborini, 2007; Zissimopoulos et al., 2008), yet the present study excluded this

cohort in the analysis. Taken together, the results of this study and previous research suggests more attention must be paid to whether there is a growing inequality between never marrieds and other unmarried groups. Specifically, there needs to be a better understanding of the increasing variability within the never married population.

### **Divorce, Gender, and Retirement Savings: A Complex Relationship**

This study's findings on the retirement security of individuals who experienced divorce was generally consistent with previous research. Whether or not they experienced a divorce appeared to have a weak relationship to remarried people's retirement resources. This result provided support for studies that suggested remarriage can be financially beneficial (Wilmoth & Koso, 2002; Zissimopoulos, 2009). This study also found, similar to existing literature that unmarried people who experienced divorce had less retirement income from both Social Security and pension benefits than widowed respondents.

The Social Security benefit structure is tied to work history, marital history, and age which means there is the potential for the accumulation of disadvantages over the life course (O'Rand, 2003; Szinovacz et al., 2012). Research continues to provide evidence that family-related events such as raising children, caring for aging relatives, or retiring early are all work interruptions that disproportionately affect women (Budig & England, 2001; Holden & Smock, 1991; Szinovacz et al., 2001) and that women's increasing labor force participation rates do not offset the financial consequences of these interruptions (Holden & Fontes, 2009). The majority of articles show divorced women have lower wealth and financial assets (Holden & Smock, 1991; Smock, 1993), and are less prepared

for retirement than widows (Lee & Rowley, 2009). The present study suggested this is true, however, only older divorced women with multiple previous marriages had less Social Security income than widows.

As the rates of women with multiple marriages and fewer than 10 years married increases, some scholars are predicting higher rates of women ineligible for benefits related to their marital history (Butrica & Iams, 1999; Harrington Meyer et al., 2006). An increase in longevity may also mean future generations of divorced women may be worse off because of Social Security's benefit structure; a divorced widow will receive 100 percent of benefits if the former spouse is deceased, instead of 50 percent in cases where the former spouse is alive (Vetrano, 2010). These trends predict a rise in poverty among older divorced women, yet recent studies indicate the negative effects of divorce on financial resources may be changing for younger generations who experience less economic costs associated with marital dissolution than previous generations (Butrica & Smith, 2012c; Lin & Brown, 2012; McKeever & Wolfinger, 2001). As rates of widowhood before retirement or in early retirement continue to decline and divorce remains a common status in retirement, more attention must be paid to studying older divorcees in future research.

In term of employer-sponsored pensions, when in life the divorce happened did not make much difference; divorced individuals had lower odds of receiving a pension compared to older widow(er)s. Pension entitlements for divorcees are more complicated than Social Security entitlements and retirement assets, such as 401(k) plans, earned during a marriage tend to be considered marital property. These assets are subject to

being split between the employee and his/her former spouse. The combination of different types of pension plans, complicated work histories, and detailed pension laws mean mistakes can be made when lawyers are distributing marital assets (Rattiner, 2011). The splitting of pension assets and the complexity surrounding asset distribution during a divorce may be part of the reasoning behind such a strong relationship between divorce and pension receipt. The present study found that divorced men had lower odds of receiving a pension compared to widowed men, but for unmarried women there was no relationship. Yabiku (2000) also found a lower probability of pension benefits for divorced men but this was compared to their continuously married counterparts. Pension receipt, however, may have something to do with the age at retirement, since a descriptive analysis suggests widowed men and women in the sample are older than divorced men and women (Table 26). These older retirees may be more likely to begin collecting their pension benefits the year they retire than the younger groups.

This study found that there was no difference between the non-housing wealth of individuals who experienced divorce and other marital groups. Though inconsistent with much of the previous literature, this study's methodological design, with married and unmarried respondents analyzed separately, helped to minimize the influence of the advantages of marriage on the results. Married people who experienced a divorce and then remarried were no different than the continuously married with respect to wealth. Remarried people with multiple previous marriages, however, did possess less non-housing wealth than the continuously married as well as those who remarried after one divorce. This supports previous work that suggests it may not be the divorce per se, but

the experience of multiple marriages that hurts wealth for currently married individuals (Ulker, 2009; Wilmoth & Koso, 2002). People are less likely to divorce from their first marriage than their second, third, and so on, but most researchers disregard the occurrence of previous marriage events in their analyses. Thus, more research needs to be conducted to understand the effects of divorce and the influence of a combination of marital events on retirement resources.

Table 25. Detailed marital status categories for married respondents by gender and select socioeconomic and work history variables (mean unless otherwise noted, one-way ANOVA test for significance unless otherwise noted).

Race (%)	Currently Married Men				Currently Married Women				$\chi^2 = 14.96$	$\chi^2 = 19.50^*$
	Continuously Married	Remarried divorced	Remarried widowed	Remarried multiple marriages	Continuously Married	Remarried divorced	Remarried widowed	Remarried multiple marriages		
White	79.4	79.6	78.3	83.5	79.9	79.4	80.7	91.5		
Black	10.9	12.3	6.5	11	10.7	14.9	10.5	7.3		
Hispanic	8	6.9	8.7	1.8	7.5	5.7	8.8	1.2		
Other race	1.7	1.3	6.5	3.7	1.9	0	0	0		
Age at Retirement	62.6	62.2	62.4	62.2	61.3	61.1	61.8	61.6	$F = 0.61$	
School Years	12.7	12.7	12.3	12.5	12.7	12.7	11.8	12.3	$F = 2.71^*$	
Longest Job Tenure	25.4	22.8	22	20.2	17.6	16.5	18.5	15.1	$F = 2.54$	
Total Years Worked	42.7	42.4	43.5	42.3	30	32.8	30.8	36.3	$F = 9.27^{***}$	

\*\* indicates significant marital status difference at the 0.01 level

\* indicates significant marital status difference at the 0.05 level

Table 26. Detailed marital status categories for unmarried respondents by gender and select socioeconomic and work history variables (mean unless otherwise noted, one-way ANOVA test for significance unless otherwise noted).

Race (%)	Currently Unmarried Men				Currently Unmarried Women				$\chi^2 = 17.63$
	Widowed Once	Widowed Multiple Marriages	Divorced Once	Divorced Multiple Marriages	Widowed Once	Widowed Multiple Marriages	Divorced Once	Divorced Multiple Marriages	
White	62.7	87	70.8	80.6	71.7	75.5	59.4	80.9	54.6
Black	19.4	8.7	20	11.9	20	21.5	31.6	22.3	37.4
Hispanic	14.9	4.3	8.3	6	5	1	7.4	5.8	6.1
Other race	3	0.1	0.8	1.5	3.3	2	1.6	1	2
Age at Retirement	64.1	64	62	61.9	61.8	63.5	62.6	63.7	62.7
School Years	11.8	12	12.5	12.4	13.2	12	13.1	12.6	12.9
Longest Job Tenure	22.4	16.7	22.1	20.3	24.3	16.5	18	16.8	23.6
Total Years Worked	44.1	39.7	40.4	41.9	38.5	35.4	33.7	36.1	38.4

\*\* indicates significant marital status difference at the 0.01 level

\* indicates significant marital status difference at the 0.05 level

## **Policy Implications**

Changes in work-life, such as the rise in dual career couples, and changes in family-life, such as the increasing rate of divorce, influence the way people save for their retirement. The cohorts studied in this research are among the first to retire after these demographic shifts took place. Taken together, the results suggest that our understanding of retirement security may be limited if literature continues to view retirement from a solely economic perspective and fails to incorporate life factors such as family patterns and marital history (Szinovacz, 2012; Szinovacz et al., 2012). Indeed, models of retirement security often acknowledge sociodemographic influences but do not address large within group variations that may exist in certain populations. If our retirement policies and saving mechanisms inherently result in accumulated disadvantages for certain populations, then reevaluation is needed. Policy makers, researchers, and financial advisers must consider both previous and existing life circumstances when dealing with people's retirement.

A number of policies favor marriage, and this study found that people with longer marriage lengths had more retirement resources. Several factors have influenced the increasing divorce rate, including the change in our divorce laws. These laws originally favored staying married but were altered to make it easier for individuals to leave a marital relationship. These policies have updated with the changing times, yet our Social Security benefit system has not; it is still largely based on lifelong marriages being the norm. As a number of scholars have proposed, our system needs to be modernized so that the policies mirror the current experiences of many Americans. For example, reform

proposals that eliminate the spouse and survivor benefit often suggest replacing it with an “earnings sharing” benefit. With an “earnings sharing” strategy, spouses receive credit for one-half of the joint earnings accumulated during their years married. This approach is argued to be more appropriate for today’s workers since it is neutral to the differences between one-earner and two-earner couples (Favreault & Steuerle, 2007; Ferber, Simpson, & Rouillon, 2006), though it is controversial and criticized for being too costly and likely difficult to implement.

With regard to divorce, this study found that individuals who experienced divorced had less retirement income and lower odds of benefit receipts compared to their widowed counterparts in the unmarried models. Pension benefits are marital property, but divorce is a complicated issue and can be laced with emotional and stubborn decision-making. Divorce clearly has a negative effect on assets as it forces the division and often sale of property, and the separation of one household into two. Furthermore, although a pension is considered part of the marital property, this does not mean an ex-spouse will receive half of the retirement benefits, and she may not inherit the rest upon the worker’s death. It may help if individuals were aware of the entitlements and the implications of financial decisions made at the time of their divorce. Policies can also influence the division of resources during divorce, including pensions, and the complexity of current laws could be reduced to provide clarity and simplification (Haider, Jackowitz, & Schoeni, 2003). This research found that divorced individuals had lower odds of receiving an employer-sponsored pension compared to widowed individuals. A widow, by default, receives all the household income and assets upon the death of her spouse

unless some are intentionally willed to another person; a divorcee will only receive a portion of the household finances, therefore, the difference in retirement resources among divorced and widowed women makes sense. Divorce settlements involve negotiations, and some women may prefer to forgo part or all of their spouses' pension benefits in order to receive other assets, such as full ownership of the house.

Social Security provides distinct benefits to divorcees whose marriage lasted 10 years or more. The amount of benefits received is determined by factors including the length of marriage, the ex-spouse's earnings history, and whether he is still alive (Haider et al., 2003). In fact, research suggests divorcees who qualify for Social Security benefits based on their ex-spouse's work history are not all the same. Those whose ex-spouse died are receiving more generous benefits than those with a living ex-spouse (Butrica & Smith, 2012c). Increasingly, research is suggesting too much focus has been placed on older widows who are actually doing much better in retirement than divorced women. Some scholars are calling for more research on divorce's influence on Social Security benefits because initial research suggests these benefits are related to divorce timing and remarriage (Vetrano, 2010). At the very least, the findings from this study indicate that current marital trends must be considered and addressed in any new Social Security policy proposals. This study found that women divorced after multiple previous marriages had less Social Security benefits than women widowed from their first marriage. Given the age of these women, it is likely most of the divorcees' ex-husbands are still alive and that they are therefore receiving fewer benefits than widowed women by default through the Social Security pension system.

Though the divorced are doing relatively poorly, it appears never married individuals are the unmarried group who are the most disadvantaged in retirement. Though potential endogeneity and selection effects must be considered (i.e., that being never married is correlated to other model variables and therefore produces biased results), the results still indicate a better understanding of the never married population is needed. Much of our existing research on retirement planning, our retirement saving mechanisms, and our financial advice may be inappropriate for this population because they often focus on married couples. Never married seniors have historically been a very small group so it makes sense they received little attention, but this is changing rapidly as the Baby Boomers approach later life. Now is the time to understand how never married men and women build their retirement security, and whether our systems may be inadvertently disadvantaging them in retirement. Social Security policies favor those who are currently or previously married, and the current discourse around policy changes entirely excludes never married people. Policies around employer-sponsored pension benefits are more complex, yet never marrieds are again largely absent from the discussion. It is vital that the financial outcomes of being never married are considered if we plan to modify our social programs and retirement schemes in the near future.

Emerging research suggests that the never married population may be exceptionally heterogeneous; on the one hand there is a highly educated, healthy, and well-off group while on the other we see an impoverished, uneducated population often made up mostly of minorities (Tamborini, 2007). Brief subgroup analysis conducted on the never married sample used in this study (see Table 27) identified a diverse

population. Compared to the entire unmarried sample, never married people who never graduated high school or have only their high school diploma are more likely to be minorities in poor health with less in non-housing wealth. In contrast, never married individuals with at least some college are more likely to be White, healthier, and wealthier on average than the total unmarried sample. Though factors such as education and health were controlled in the analyses, it is possible that socioeconomic characteristics may be driving the association between marital history and retirement security for the never married population. Indeed, the information in Table 27 and other research studies suggest that the never married group is the most racially and ethnically diverse of the unmarried groups (Lin & Brown, 2012). More research is needed in this area to further understand heterogeneity among the never married population and its implications for retirement security.

Existing literature and this research also find a very clear gender difference among never married men and women that needs to be further studied. This study suggests that unmarried women are hurt most by divorce while being never married is the most vulnerable status for unmarried men. This study (see Table 27) and recent research have found that, while never married men are disadvantaged in retirement, there are really two very different groups among never married men. These two groups have drastically different socioeconomic characteristics and therefore, averages may be masking this distinction. Though never marrieds are disproportionately men, those women who choose to remain never married are also a very heterogeneous group. Their heterogeneity, however, is clearly related to age; elderly never married women (75 and

older) are more likely to live in poverty than divorcees and widows (Tamborini, 2007) but younger never married women are more likely to have higher earnings and education (Lin & Brown, 2012). If this change among never married women continues, then the differences between being a never married man and a never married women may be increasing among younger generations. An example of a policy change that supports these lower-income Social Security recipients includes raising the minimum Social Security benefit amount. Yet, before making any major changes, the reasons behind remaining never married need to be better understood since marriage was not an option for gay, lesbian, and bisexual couples until very recently. Now that these couples can legally marry and receive spousal retirement benefits, further research is needed to determine whether the individuals who are choosing to remain never married are different than the never married population examined in this research and other studies (Larson & Larson, 2008).

Though this study did not examine specific policies related to marital history and retirement security, it does suggest that certain groups with disrupted marital pasts will enter retirement with fewer resources. It is recommended that future research examines how our current policies support certain marital groups, and why these policies are favoring one group over another. Policies that encourage individuals and couples to plan for their retirement should also be studied, so that an understanding of how governments and the private sector can facilitate retirement planning and saving can be developed.

Table 27. Descriptive summary comparing the total unmarried sample to the never married subpopulation by education (% unless otherwise noted).

	Total Unmarried Sample (N = 1,165)	Never marrieds with a high school diploma or less education (N = 83)	Never marrieds with some college or a college degree (N = 84)
White	66.3	47.0	75.0
Black	25.5	43.4	19.0
Hispanic	6.9	9.6	1.2
Age (mean) (SD)	63.1 (4.3)	62.8 (4.6)	61.5 (3.9)
Female	70.5	66.3	57.1
Education (mean) (SD)	12.6 (2.9)	n/a	n/a
Homeownership	69.7	60.2	70.2
Respondent's health excellent	10.4	10.8	7.2
Respondent's health very good	26.7	13.3	39.8
Respondent's health good	31.2	34.9	30.1
Respondent's health fair/poor	31.8	41.0	22.9
Presence of ADLs	15.3	14.4	9.5
Presence of IADLs	11.2	10.8	4.9
Longest job tenure in years (mean) (SD)	19.6 (10.3)	21.9 (11.4)	26.0 (10.3)
Total years worked (mean) (SD)	36.9 (11.5)	35.9 (12.5)	40.2 (6.5)
Non-housing wealth (mean)	\$127,779	\$75,931	\$228,014
Non-housing wealth (median)	\$27,000	\$4,900	\$107,250

## **Conclusion**

The overarching conclusion from this study is that a better understanding of differences in the retirement experience can be achieved only if variations in the circumstances of family life and marital transitions are further explored. Though we know from decades of research and policy that marital status has a strong relationship to retirement income and wealth, the focus has been almost exclusively on tracking changes in marital trends or understanding the economic consequences of being an unmarried woman. Researchers have only begun to scratch the surface in understanding the extent to which a lifetime of marital patterns accumulate to produce varying financial outcomes in retirement.

This research makes a significant contribution to the literature and broadens our knowledge on marital history and retirement resources in several major areas. First, this research finds strong support for marital history being related to retirement resources and in different ways based on the resources studied. Whether or not an unmarried person receives an employer-sponsored pension is related to their marital history; however, the amount of income received has no relationship. In contrast, Social Security income and non-housing wealth amounts do have a relationship to marital history and this occurs for both married and unmarried populations. While marital history's association with retirement resources may have more to do with the family-work life relationship, too few studies have explored this association directly for the accumulation of Social Security and pension benefits. The existing research identifies differences among the married and unmarried, focuses extensively on divorced and widowed women, and explores how

couples make decisions and plan for their retirement. Less research looks at the accumulation of retirement resources over the life course, and the relationship between these resources and family life.

Regarding the relationship between marital history and retirement security, this study found several within group differences among the married and unmarried populations. In relation to their retirement income and assets, married men are better off than married women and their marital history appears to have no association with later-life financial outcomes. Remarried women, particularly remarried widows, , and married women with shorter marriages or who spent less of their lifetime being married have a better financial situation in retirement than the continuously married. For unmarried individuals, retirement income and assets are also related to marriage duration and for both men and women, those in longer marriages have more retirement security. The type of marital disruption and the frequency of marital changes are related to retirement security for the unmarried; never married individuals, particularly never married men, and divorced individuals have less retirement income and assets than other unmarried groups. In short, when compared to their unmarried counterparts, unmarried widow(er)s have a more financially secure retirement.

This research suggests that future studies focusing on married and unmarried people separately will be valuable for advancing our knowledge and understanding of the consistent differences between these groups. In fact, this study argues for a closer look at the financial situation of certain populations. Specifically, remarried women and never married men are both populations identified by this study that are in need of further

exploration. Politicians, policy makers, and researchers need to discontinue their attempts to explain the reasons behind the changes in marital trends. The shift has occurred, and the generation who experienced this shift is retiring. The life course events and transitions behind the formation of our current policies no longer hold, and this calls our attention to the need for additional research and political action.

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