RETIREMENT TRANSITION SEQUENCES AND WELL-BEING AMONG OLDER WORKERS FOCUSING ON GENDER DIFFERENCES

BY

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DISSERTATION

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ABSTRACT

As older Americans experience better health conditions and are living longer, their lifestyle after retirement has become a growing concern. Workers aged 50 and older make up more than one-fifth of the labor force in 2018 and it is expected that the number will increase in the future. This trend has encouraged researchers and policy makers to study the impact of labor force participation and retirement on well-being to better understand older workers' retirement transition experiences.

The purpose of this dissertation is to expand knowledge in retirement transition and well-being in later life by understanding: (1) the retirement transition sequences by gender, (2) the related socio-demographic factors with the retirement transition sequences, and (3) the association of retirement transition with well-being in later life.

Drawing on the life course perspective, this study examined retirement transition sequences by gender. Data are from the 2004 to 2016 Health and Retirement Study (HRS) with 1,653 older workers. Using the sequence analysis approach, the results of the approach used herein identify the primary patterns of retirement transition sequences in the US. In addition, Dynamic Hamming analysis enabled the mapping of retirement transition biographies in relation to potential typologies indicative of patterns of later-life employment and retirement.
The majority of sequences were dominated by full-time work to mid-time voluntary retirement (18.81%) among men, followed by full-time work to early voluntary retirement (17.7%). In contrast, the most dominant group was gradual involuntary retirement (20.54%), followed by full-time work to mid-time voluntary retirement (19.68%) for women. Those who experienced involuntary retirement had a precarious work history that included part-time work and frequent

job changes for both men and women. In addition, those in the involuntary full-retirement transition sequence were found to be the least socioeconomically advantaged and to suffer from poorer mental health than those who followed other trajectories.

The findings are suggestive of benefits to well-being related to voluntary retirement transitions but in ways that are gendered. Downshifting from full-time work to voluntary full retirement was clearly associated with the greatest levels of well-being for both men and women, while involuntary retirement and an involuntary retirement transition were negatively associated with reduced levels of well-being, especially for women. This implies that the contexts surrounding retirement (such as family-care obligations) will play a role in determining how retirement affects well-being.

The findings support the following broad conclusions: Involuntary retirement transition followed by a precarious work history is more common among older women in the US; well-being in later life varies depending on retirement transition history, including voluntariness and work history. The results suggest important gender specified implications for social policy and practice for involuntary retirees. To prevent the negative consequences related to involuntary retirement transition, multidimensional collaboration with policymakers, social work practitioners, researchers, and employers is essential. The results contribute to decreased social inequities and the promotion of successful aging in older adults.

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CHAPTER 1: INTRODUCTION

Background

As older Americans experience better health conditions and are living longer, their lifestyle after retirement has become a growing concern (Mather et al., 2015). In 2019, 54.1 million US adults were 65 and up, representing 16 % of the US population and this number is expected to reach 80.8 million by 2040 (CDC, 2022). Older workers are the only age group whose labor force participation has increased since the mid-1990s. Today, workers aged 50 and older make up more than one-fifth of the labor force and it is expected that the number will increase in the future (Wandner et al., 2018). People want to work longer due to a need for additional income, social engagement, or both (Wandner et al., 2018). This trend has encouraged researchers and policy makers to study the impact of labor force participation and retirement on well-being to better understand older workers' retirement transition experiences (Mota et al., 2016; van Zon et al., 2016). A growing number of studies have supported the importance of well-being as a protective factor against age-related issues, including a decline in cognitive, physical, and psychological functioning (Boyle et al., 2010; Lewis et al., 2017; Mota et al., 2016).

While retirement was viewed as a predictable event in the past—as a permanent transition from full-time employment to full-time leisure—this perspective has shifted. Traditionally, retirement has been defined as withdrawal from the workforce (Moen, 1996). The traditional concept of retirement has evolved over time. For many people, retirement is not considered to be a permanent withdrawal from the labor force anymore, but a mix of paid jobs and leisure activities (Moen & Flood, 2013). Today, instead of fully retiring, about 30% of U.S. workers (9 million people) continue to work after they retire (DeSilver, 2016; Greenwald et al.,

2017). Over the last three decades, policy, economic, and demographic shifts are claimed to have altered the degree of regularity in later-life careers and worsened disparities between groups (Tang & Burr, 2015). With this trend, retirement is currently considered to be a complex process unfolding over time, one that varies considerably across individuals in a given context, rather than a one-time transition from full employment to complete retirement (Szinovacz, 2003).

However, research on retirement and well-being has shown inconsistent results. Some studies have found that retirees have reported poorer health, higher levels of depression and loneliness, lower life satisfaction and happiness, and lower social activity levels than those who have not retired (de Grâce et al., 1994). In contrast, others have found that retirement results in increased well-being in older adults. Most individuals tend to report being satisfied with retirement, have better health outcomes than those who have not retired, and report lower stress levels (Calasanti, 1996; Denier et al., 2017; Dorfman, 1992; Mein et al., 2003; Rohwedder & Willis, 2010). However, other studies have found no apparent impact of retirement on an individual's well-being (Gallo et al., 2000; Rhee et al., 2016). These contradictory results could be due to differences in study design (cross-sectional vs. longitudinal), measures of retirement and well-being used, and different age cohorts (Gall et al., 1997).

The retirement transition process is multidimensional, varying in terms of employment status before retirement, retirement forms (e.g., voluntary retirement, involuntary retirement), and time of retirement (e.g., early, normal, late). Recognizing various types of employment patterns prior to retirement provides in-depth information on how retirement behavior is embedded within larger histories (Sackmann & Wingens, 2003). More specifically, whether the person was self-employed before retiring or whether they worked part or full-time are important contextual factors to examine in order to understand the retirement transition (Blanchflower,

2000; McNair et al., 2004; Parker & Rougier, 2007), as this provides the context of the individual from which the person retired (Wahrendorf et al., 2017). In other words, a more comprehensive approach is needed to describe the complete patterns of retirement transition by investigating labor market involvement over an extended time frame (Aisenbrey & Fasang, 2010).

Furthermore, it is important to consider the different types of retirement to understand retirement better (Banks et al., 2016). Four major forms of retirement are: 'partial' retirement, which refers to substantially reducing one's work hours but remaining in some type of paid employment (Ekerdt, 2010); 'full' retirement, which refers to permanent withdrawal from paid employment; 'involuntary' retirement, which refers to retirement compelled by illness or company circumstances such as a business or plant closure (Rhee et al., 2016); and 'voluntary' retirement, which involves choosing to retire when one wants. Types of retirement can occur in different time frames, such as 'early,' 'normal,' and 'late' compared to the pension-eligible age (Duval, 2003). Previous research has investigated the effects of different forms of retirement, often providing evidence that early retirement can be beneficial when individuals choose to retire voluntarily (Matthews & Nazroo, 2016), while involuntary retirement, regardless of time frame (early, normal, late), tends to have a detrimental impact on the individual (Banks et al., 2016).

Although retirement has been given a substantial amount of academic attention (van Zon et al., 2016), most of the research thus far has focused on the retirement event itself without taking into account previous work experience, and has utilized a dichotomous assessment question (retired or not), rather than focusing on the various forms of retirement (Dave et al., 2006; Oksanen et al., 2011). However, since retirement is a complex life event with a multidimensional structure in which many factors influence its consequences differently,

investigating the retirement transition within a broad framework is crucial. With the recent trend of workers moving away from the traditional linear career progression from full-time work to full-retirement (Collins & Casey, 2017), understanding the complex retirement transition along with the later employment path has become more critical.

To examine the heterogeneous patterns of retirement transition, this dissertation pays special attention to gender. Gender is a critical individual factor for understanding the unique nature of individuals ' occupations as well as the timing and duration of employment (Moen, 1996). Historically, women and men have been socialized differently regarding work and family identities, and men have a more continuous career than women, who have more diverse career paths and are more likely to have domestic duties as the main caregiver (Fisher et al., 2016). The gendered pattern of work earlier in life leads to different retirement transition experiences in later life, with financial disparities related to pension, Social Security, and other financial resources in retirement (Wang & Matz-Costa, 2019).

This dissertation aims to identify the retirement transition sequences within a comprehensive framework and examine their association with well-being. I adopt a holistic approach to life course by considering the dynamics of later life employment and retirement in order to examine different aspects of individuals' retirement transition sequences during later life (timing, sequence) and different life dimensions (employment, retirement) simultaneously. The life-course perspective suggests a research agenda leading to important insights regarding the dynamics and consequences of the retirement transition sequences and their association with well-being. The overall goal of this dissertation is to identify the retirement transition sequences and examine related factors, focusing on gender. I pay attention to heterogeneity in-between gender as well as within-gender individual-level effects on retirement transition sequences. The

dissertation provides novel insights into how retirement transition sequences vary across gender and over the life course.

Purpose of Dissertation

The purpose of this dissertation is to expand knowledge in retirement transition and well-being in later life by understanding: (1) the retirement transition sequences by gender, (2) the related socio-demographic factors with the retirement transition sequences, and (3) the association of retirement transition with well-being in later life. Using seven waves (2004-2016) of the Health and Retirement Study (HRS), this study achieves these aims with innovative methodologies and a robust theoretical framework.

CHAPTER 2: LITERATURE REVIEW

This chapter presents an empirical and theoretical foundation relevant to the topic of retirement transition sequences and well-being in later life. It begins with the current literature on retirement transition sequences of older adults, followed by a description of research gaps in the current literature. This chapter then describes the theories which guided the research questions and hypotheses. This chapter concludes with the research questions and hypotheses for the dissertation.

Empirical Studies

In this section, empirical studies related to retirement transition sequences (e.g., later life work, retirement) are first described to give insight into the current studies of retirement transition sequences. Next, empirical research associated with retirement transition sequences and mental health and subjective well-being is introduced to summarize the literature on the topic.

Retirement transition sequences

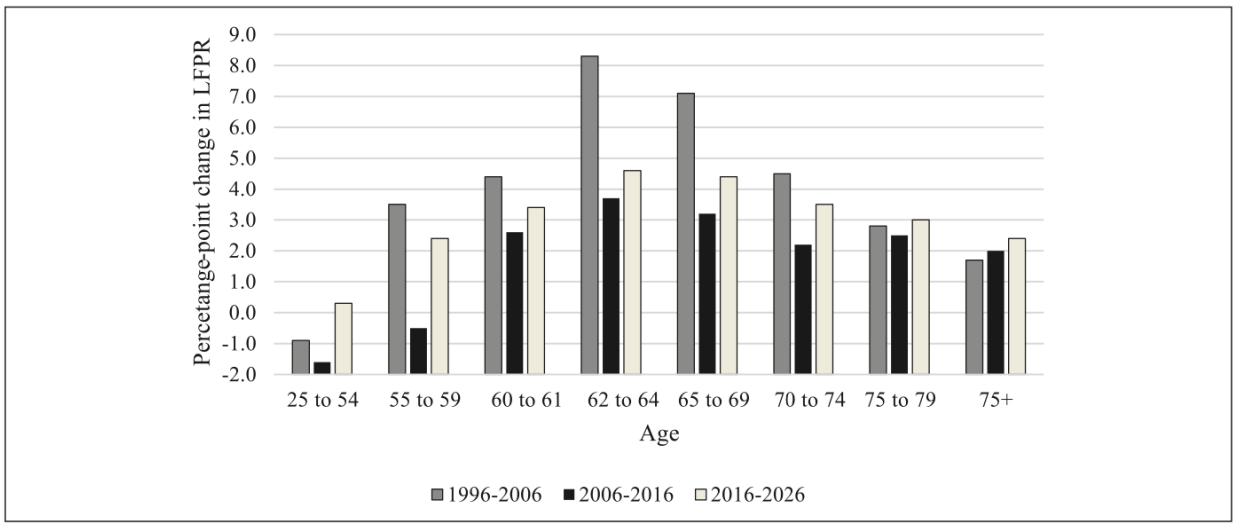
1) Later-life employment

The employment rate of people aged 55 and older has gradually increased since the 1990s. While younger persons are delaying their entry into the workforce, older workers are becoming a larger proportion of the working population (Toossi, 2015). According to the U.S. Bureau of Labor Statistics, about 40% of people 55 and older were in the labor force in 2014, and the labor force participation rates are expected to increase fastest for the oldest group of the

population (65 and above) through 2024 (Toossi & Torpey, 2017). More specifically, between 2001 and 2011, labor force participation rates in the United States among individuals aged 55 to 64 increased from 62% to 64%, while rates at age 65 to 69 rose from 26% to 32%, representing a rapid increase in labor force rates among older adults (Goodkind, 2016). In 2018, more than one in three (34%) Baby Boomer men ages 65 to 72 were in the labor force, as were one in four (25%) Boomer women (Fry, 2020). The increase in size and proportion of older adults will have important effects for at least the next quarter-century (National Research Council, 2004).

Figure 2.1 shows the percentage change in the number of individuals who are employed or actively seeking employment in the United States by age group. The figure also shows the Bureau of Labor Statistics (BLS) projections for working population trends from 2016 through 2026. This graph indicates that younger employees (25−54 years) had lower labor force participation between 1996 and 2016 and are only predicted to see a slight increase between 2016 and 2026. Older workers, conversely, not only increased their labor force participation from 1996 to 2016, but their involvement is predicted to increase between 2016 and 2026, which implies the importance of research on this population.

Figure 2.1 Changes in civilian Labor Force Participation Rates 1996-2026, actual and projected by age



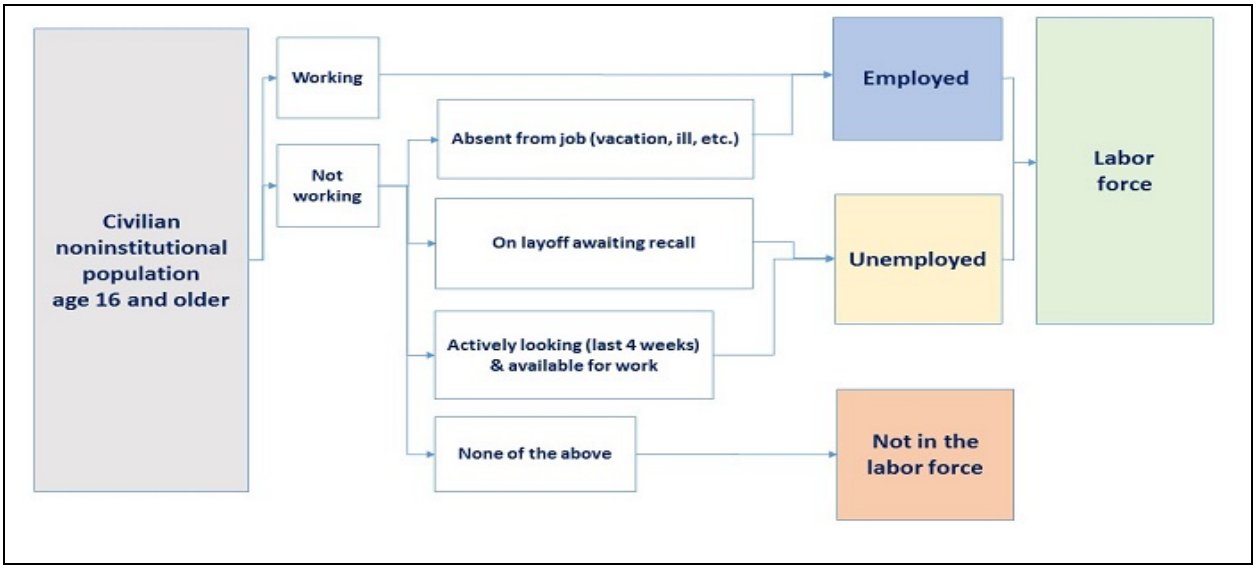
Source: Wandner, S. A., Balducchi, D. E., & O'Leary, C. J. (2018). Public employment policy for an aging workforce. *Gerontology and geriatric medicine*, *4*, 2333721418800064.

Today, many older workers are staying in their jobs for longer periods compared to the past. Others are willingly changing careers or transferring to bridge jobs, which are part-time or full-time jobs that serve as a "bridge" to full retirement. Bridge employment is the late career of episodic employment and shorter job tenures that have become common across adulthood (Cappelli, 2009). Bridge employment refers to a short-tenure job following a long-tenure job prior to labor force exit as a chosen path that provides job rewards, such as responsibility or more years of saving over the career, job, or retirement period (Ekerdt, 2010). Some older workers are involuntarily forced out of their careers due to layoffs, while others retire from manual work due to physical limitations (McLaughlin & Neumark, 2018). Many workers find it impossible to find a job to continue working reduced hours, as they get older, and many end up fully retired (Abraham & Houseman, 2004). Others choose to voluntarily retire and then reenter the workforce in seeking new opportunities (Cahill et al., 2015). Although older workers have lower unemployment rates than younger workers, they have greater difficulty obtaining new jobs and

stay unemployed longer than younger workers (Monge-Naranjo, 2006). Cahill et al. (2011), for example, used two waves of the Health and Retirement Study to look at the labor force status of people aged 67 to 77 in 2008, who were all full-time workers in career positions when assessed in 1992 when they were 49 or older. Of people in full-time career occupations in 1992, 23% were still in full-time career jobs in 2008. Between 1992 and 2008, over 43% migrated to bridge positions. Just under half remained in bridge jobs; the rest left the labor force, and about 10% of the latter group returned to the labor force. This result provides evidence of the many pathways older employees take.

Figure 2.2 explains the concept of the labor force, employment, and unemployment that compose the variables of later-life employment in the research. Recently, older workers showed a greater variety of pathways during their later working years than the previous generation (Collins & Casey, 2017).

Figure 2.2 Labor force, employment, and unemployment concepts



Source: U.S. Bureau of Labor Statistics (2018)

To be specific regarding each employment type, full-time work refers to a job in which employees work 35 hours or more per week (U.S. Bureau of Labor Statistics, 2019). Full-time work is more common among older men compared to older women, who have a weaker attachment to the labor market (e.g., part-time, early withdrawal, non-employment; Tang & Burr, 2015; Wahrendorf et al., 2017; Warner, Hayward, & Hardy, 2010; Worts et al., 2016). Retirement from full-time work around age 65 is assumed as a conventional model of later-life job transition (Calvo et al., 2017), while retirement before age 62 is considered early retirement, and after age 70 is considered a late retirement transition.

Older workers are also employed part-time and work 34 hours or less per week for many reasons. Some may transition to part-time from full-time work, while others move from not working to part-time work (Collins & Casey, 2017). U.S. Bureau of Labor Statistics data showed that about 27% of workers aged 55 and older were employed part-time, and for workers 65 and older, the rate of part-time employment was 40% in 2016 (Toossi & Torpey, 2017). Compared to prime-age workers (25−54 years), teenagers and older workers are more likely to work part-time. Those 65 and older have tended to work part-time more than workers aged 55 to 64, although their part-time employment dropped dramatically from 48.3% to 34.6% between 1994 and 2016 (Dunn, 2018).

Self-employment is another option to gradually leave the labor market or introduce flexibility and autonomy into one's life. Self-employment rates increase in later life because of the benefit of flexibility in the use of time (Burr & Mutchler, 2007). While self-employment makes up a small portion of total employment, it is an important option for older workers. It is also worth noting that some people are self-employed because they could not find other types of work (Burr & Mutchler, 2007). In 2017, there were 5.8 million self-employed people aged 16

and up, accounting for 3.8% of total employment (BLS, 2017). In 2017, the overall number of incorporated self-employed was 15.4 million, accounting for nearly 10% of total employment. In comparison, the percentage of self-employed older workers was 16% for those 55 to 64 and 26% for those 65 and up (Hipple & Hammond, 2016).

Unemployment occurs when one is jobless, looking for a job, and available for work (U.S. Bureau of Labor Statistics, 2014). The unemployment status of older workers can be particularly difficult as they may struggle to find a new job for many reasons, such as their age and health status. Older workers' unemployment intervals (39.3 weeks for workers 65 and above) are longer than those of younger workers (27.5 weeks for workers 16 and older), and older displaced workers appear to have more difficulty finding new employment (Collins & Casey, 2017).

Beyond leisure activities, retirement now includes a variety of possibilities such as pursuing vocations and entrepreneurial activities, second careers, and continuing education (Wang & Shultz, 2010). Since older workers today have diverse paths to retirement, this dissertation builds on the diverse later-life employment status to understand the retirement transition.

2) Retirement

According to the Administration for Community Living (2021), the percentage of Americans over 65 in 2020 has nearly quadrupled from 4.1 percent in 1900 to 16 percent in 2019, while the number increased more than 17 times from 3.1 million in 1900 to 54.1 million in 2019. This trend directly contributed to the increased numbers of retirees in the last decade. Although researchers have defined retirement in various ways (Denton & Spencer, 2009), it is

generally defined as an individual's exit from the workforce, accompanied by a decreased psychological commitment to and behavioral withdrawal from work (Shultz & Wang, 2011). Across all occupations, increased heterogeneity is evident in the timing, permanency, and duration of the retirement transition (Warner et al., 2010). Mandatory retirement age, also known as pensionable age, has historically contributed to the construction of cultural norms and generally shared community expectations regarding the acceptable age of retiring from the workforce (MacDermott, 2014). Retirement from work often includes some combination of post-career "bridge" employment, partial retirement, complete retirement, and reverse retirement. Less than 40% of workers retire directly from career jobs; more than 50% partially retire at some point in their working lives, and 25% reenter the labor force after initially retiring (Ruhm, 1990). These days, retirement is no longer considered a complete withdrawal from the labor market; it increasingly refers to the continuation of a person's professional career in familiar or new areas of the labor market (Wang, 2013).

Historically, men have spent their prime years of adulthood in the labor force, and most previous studies on retirement have focused exclusively on men (Atchley, 1971; Szinovacz, 1983). The history of the concept is closely associated with the meaning of work in the male breadwinner model in society (Jefferson, 2005). Women's work has been invisible in most historical contexts, as their work outside the market economy was not typically recorded as work (Hakim, 1996; Hesse-Biber & Carter, 2000). However, as the role of work became increasingly central to women's lives as well, gender differences became important to understand across occupational and familial pathways and for well-being after retirement (Moen, 1992). During the 20th century, female employment in the U.S. increased from about 20% in 1920 to 47% in 2021 of the working-age population (U.S. Department of Labor, 2021). From 1990 to 2015,

participation rates for women aged 60 to 65 in the United States increased from 36 to 50% (Goldin & Katz, 2016). As a result of the increase in women's labor force participation, more women are experiencing retirement firsthand rather than indirectly through their husbands as in the past (Slevin & Wingrove, 1995).

Despite the increased number of women in the labor market, women are still underrepresented in high-paying occupations and leadership positions. For example, on average, women earn 20% less than men on an hourly basis and work in more occupations with more career paths (Petrongolo, 2019). The different work histories and employment structures of women may affect the adjustment phase after retirement compared to men (Calasanti, 1996). For example, women are more likely to work in occupations that have negative effects on stability with work and retirement income (Meyer, 1990). This again highlights the importance of identifying gender differences in retirement research.

3) Retirement transition sequences

I conceptualized both later life employment and retirement patterns as a retirement transition sequence. "Transition" refers to a change of status, while "sequence" implies a chronologically ordered set of transitions (Giele & Elder, 1998). Although retirement is a complicated experience, a sequenced approach allows for more precision in investigating patterns of retirement. Therefore, the concept of "retirement transition sequences" describes later-life careers encompassing multiple chronologically ordered transitions in labor force statuses that individuals experience (Calvo et al., 2017). In this context, retirement transition sequences may include diverse forms of transition, such as from full-time employment to partial

retirement, from part-time employment to involuntary retirement, or from self-employment to voluntary retirement.

Furthermore, as a majority of American workers leaving full-time employment moved into bridge employment after age 50 (Cahill, Giandrea, & Quinn, 2006), more attention has been given to the untraditional form of retirement: bridge employment. Bridge employment is a relatively new but growing trend among older adults (Shultz, 2003).

The association between gender and retirement transition sequences

The key factor that shapes retirement transition sequences in the life-course perspective is gender. Gender is an important characteristic that shapes the nature of an individual's occupation as well as the timing and duration of employment (Moen, 1996). Women's labor market disadvantages, such as those resulting from occupational segregation in low-paying jobs, broken careers, and part-time jobs, have been the subject of much academic research (Feng et al., 2019). Overall, gender affects the barriers, resources, and opportunities shaped during the entire life course and influences the life quality of individual men and women as they move through and beyond retirement (Moen, 1992). For example, in traditional society, men were considered the breadwinners whose work served a central role in their lives. Men had continuous employment careers, while women often left the workforce due to marriage, the birth of their children, or caregiving to family members in their role as homemakers (Quick & Moen, 1998).

Although women's recent participation in the labor market has markedly increased (ILO., 2014), the difference in women's and men's life paths implies that the retirement transition and its implications for well-being may differ by gender. Women are the primary caretakers for their children, spouses, and adult family members, demanding time off from paid employment in the

form of decreased paid working hours or not working for pay for a certain period (Feng et al., 2019). For example, men were reported to be more negatively influenced by retirement than women in their psychological outcomes due to the central role employment plays in the male identity (Janzen & Muhajarine, 2003; Noh et al., 2019). Vo et al. (2015) conducted research with 202,584 Australians to examine the associations between different work statuses and psychological distress by gender at different ages. For both genders aged 45−64 and men aged 65−74, fully retired or unemployed status was associated with higher levels of psychological distress compared to those still working. Lee and Smith (2009) also found a gender difference in depression after retirement; compared to working and retired individuals, depression rates were larger in men (retired 24%, working 6%) than in women who retired (retired 29%, working 16%).

Based on the previous literature that shows significant gender differences in retirement transition and the association with mental health, the sample of the dissertation is split by gender to better understand the retirement transition sequences and effects on well-being. By considering the role of gender using the life-course perspective, the results of this dissertation provide comprehensive information on retirement transition sequences and their consequences to develop adequate supportive policies and programs for the retiree population to increase their quality of life after retirement.

Impacts of retirement transition sequence on well-being

Retirement can be both beneficial and detrimental to an individual's health and development (Cooper, 1990). To examine the impact of the retirement transition on well-being, understanding the circumstances surrounding the retirement transition and the individual’s

perspective on their retirement becomes extremely consequential (Moen, 1996). Particularly, understanding the consequences of retirement transition requires information regarding a person's characteristics (including gender), their environment (including the job they are retiring from), and the interplay between the two (Moen, 1996). Previous literature suggests that looking at the dynamics of the person and their environment is critical to better understand the large context of social forces and structure of organization surrounding retirement and its impact on well-being (Shultz & Wang, 2011), including that the effect of retirement on an individual depends on the individual's status before retirement in a broad perspective (Arpino et al., 2018). For example, although retirement has been found to negatively affect mental health (Gebel & Voßemer, 2014), retirement from unemployment seems to hold a positive association with life satisfaction (Ponomarenko et al., 2019). This implies the importance of setting a broad perspective to examine retirement with previous employment history.

In addition, the voluntariness of the retirement transition can influence well-being. Life transitions such as involuntary retirement (which leaves individuals without control over the choice) may bring reduced well-being (Beehr & Bowling, 2002; Hedge et al., 2006).

Voluntariness of retirement involves how the retirees perceive their retirement (voluntary or involuntary). This factor is widely attested as a key contextual factor for impacts on well-being after retirement. Previous literature showed that involuntary retirement due to mandatory retirement policies or company closings undermined well-being (Crowley, 1986). In general, a person's perceived control indicates whether they attribute the retirement decision foremost to their retirement or environmental contingencies (Heckhausen & Schulz, 1995). For example, some disabled workers may still view their retirement as voluntary if the retirement was initiated by them rather than by their employers. In contrast, workers who retired due to caregiving duties

in the family may feel retirement was involuntary because a relative's illness is a condition outside their control (Heckhausen & Schulz, 1995).

Despite the abolishment of mandatory retirement, retirement transitions are not always voluntary, and a noteworthy proportion of retirees perceive their retirement as "forced" (Shultz, Morton, & Weckerle, 1998). Literature showed that such perceptions had been linked to poorer adaptation to the retirement transition (Gallo et al., 2000). Nearly one-third of older workers perceive retirement as a forced transition (Kuerbis & Sacco, 2012; Shultz & Henkens, 2010), and older adults may perceive retirement as involuntary when they retire earlier or later than usual (Wang, 2007).

Previous researchers have found that the nature of the retirement variable (involuntary or voluntary) is closely related to well-being outcomes after retirement. Individuals who can exert control over their environment and/or derive a sense of control from their actions enjoy enhanced well-being, whereas lack of control reduces well-being (Herzog & Markus, 1999). For example, Hershey and Henkens (2013) examined the relationship between the nature of retirement and life satisfaction among 1,388 Dutch workers aged 50 and over. They found that those who voluntarily retired had higher levels of perceived life satisfaction. Blau (2008) also found that involuntary retirement is likely to be associated with decreased well-being. In the study, individuals made their savings decisions under different expectations about the retirement date, so the involuntary retirement negatively affected their financial status, which decreased their overall well-being. Dingemans and Henkens (2014) investigated panel data on 1,248 Dutch retirees and found that involuntary retirement was negatively associated with life satisfaction while voluntary retirees had higher life satisfaction. Participation in a bridge job was found to alleviate the negative association.

Other factors associated with better well-being among retirees include higher socioeconomic status, better physical health, and marital status. Financial problems after retirement are caused by discontinued work histories, low-wage jobs, or part-time work in the major lifetime (O'Rand & Henretta, 1999), particularly for marginalized populations. This material hardship has been shown to influence reduced well-being after retirement (Bossé et al., 1991; Kim & Moen, 2002). Financial status is known as the principal attribute associated with retirement well-being (Kosloski et al., 1984). The impact of financial factors on well-being after retirement often reflects a disadvantaged status throughout life (O'Rand & Henretta, 1999). In general, retirees with higher incomes report having higher well-being after retirement. This finding likely relates to the finding that white-collar workers have higher life satisfaction after retirement than blue-collar workers (Schreurs et al., 2011). For example, Bender and Jivan (2005) studied retirees from Health and Retirement Study (HRS) data to examine the relationship between financial well-being (pension characteristics, income, and wealth information) and overall well-being. The result showed a positive association between financial well-being and overall well-being. Further, having a defined benefit plan for a lifetime annuity in the post-retirement period positively impacts the well-being of retirees, compared to having no pension or even a defined contribution plan.

Building from the empirical studies on the relationship between retirement and well-being, the next parts describe the research gaps in the existing literature.

Research Gaps

The findings and evidence in current research support a tentative relationship between retirement transition and well-being. However, several research gaps persist in the existing retirement literature.

First, current research on retirement has mainly focused on the retirement event itself, separated from the previous work history (Wahrendorf et al., 2017), thus limiting the understanding of comprehensive retirement transition. Since retirement is directly associated with previous work history, consideration of previous work history is crucial to better understand the retirement transition process. Although a few recent studies have started to integrate late-life employment and retirement as an extension of late-life work history (Calvo et al., 2017; Wahrendorf et al., 2017), retirement status in the research was measured with a single dimension, namely whether retired or not. However, since retirement is a complex transition, heterogeneity exists in the retirement transition process. As the popularity of partial retirement among older adults is growing (Hedge et al., 2006), partial retirement should be included in the retirement research.

As mentioned earlier, well-being after retirement has been shown to have contradictory outcomes due to differences in research design. For example, Gall et al. (1997) found that retirees reported increased psychological health, energy level, personal financial satisfaction, and internal locus of control in the first year of retirement. However, 6−7 years post-retirement, the retirees' personal satisfaction and psychological health had decreased significantly. Since current research on well-being after retirement has mainly used cross-sectional designs, more research into longer-term perspectives using life-course theory with longitudinal data that includes the

previous employment history is needed to provide a more accurate understanding of well-being after retirement.

Second, the voluntariness of retirement (voluntary or involuntary) should be considered a key contextual factor in studying the retirement transition. Previous researchers have found that the nature of retirement (involuntary or voluntary) is closely related to well-being outcomes after retirement. Nearly one-third of older workers perceive retirement as a forced transition (Kuerbis & Sacco, 2012; Shultz & Henkens, 2010). Literature shows that involuntary retirees experience more negative outcomes than voluntary retirees, including reduced mental health (Rhee et al., 2016) and lower life satisfaction (Hershey & Henkens, 2013) and well-being (Blau, 2008). Although retirement has varied forms regarding types (partial, full retirement) and nature (involuntary, voluntary), current literature on retirement with life employment history is oversimplified, which might limit various interpretations of the retirement transition among older adults.

Third, retirement transition research that considers gender differences is inevitable. The predominant focus on retirement in existing research was men only (McDonough et al., 2017). When we consider that women in the baby boomer cohort show a high life expectancy and growing economic power compared to the older-birth cohorts (Kim & Waldorf, 2019), further investigation is needed to understand gender differences in retirement transition sequences and well-being in later life for a more accurate understanding of the role of gender. In particular, previous retirement literature has focused mostly on middle-class white males (Burtless & Moffitt, 1984). However, certain groups of workers have fewer job opportunities and increased joblessness in later years, which are associated with a high risk of involuntary retirement (Couch, 1998). Because employment experiences in the years immediately prior to retirement are

indicative of well-being throughout old age (Crystal et al., 1992), race and gender differences in retirement have important implications for inequality in well-being among older adults as well (Flippen & Tienda, 2000).

To address the existing limitation and gaps in the literature, I draw on the life-course perspective to explore retirement transition sequences and their association with well-being. I employ sequence analysis to model older adults' retirement transition patterns as biographical sequences−a series of labor market states−taking the entire chain as the analysis unit (Billari & Piccarreta, 2005). This research contributes to expanding the existing literature on retirement and promoting mental health and well-being after retirement by providing more accurate information on retirees in the aging context.

Theory of the Retirement Transition and Its Impact

Since the retirement transition is intertwined with the society surrounding the older individual, a broad set of theories is required to better understand the retirement transition sequences and their association with well-being (Wang, Zhan, Liu, & Shultz, 2008). Insights from one theoretical framework were adopted as the guiding framework to explain well-being post-retirement transition: the life-course perspective.

Life-course perspective

The life-course perspective, which originated in the sociological literature (Elder Jr, 1977), highlights the dynamic processes of development and change over a lifetime (Kim & Moen, 2002). I used the life course perspective in this dissertation because it incorporates several distinct themes: (1) interconnection between societal changes and human lives; (2) timing of

lives; and (3) human agency. I chose the life-course perspective to guide the conceptualization of retirement transition sequences for the dissertation for several reasons. First, this perspective integrates concepts and learning from multiple disciplines, including economics, anthropology, developmental psychology, demography, and sociology (Mayer, 2009). The disciplines above study retirement and related factors, so I use the life-course perspective to embrace an interdisciplinary approach to meet the research objectives. Second, this perspective allows researchers to assess multidimensional factors, including the micro-, meso-, and macro-levels of factors, when examining life-course events (Mayer, 2009) such as retirement.

The life-course perspective provides a nuanced view of retirement adaptation. It integrates diverse life-sphere factors from different periods by focusing on the characteristics of individuals and environments that foster healthy development at all stages of the life course (Moen et al., 1995). Third, human agency, a major idea in the life-course perspective, highlights that individuals will make choices and plans from among available options that will eventually shape the trajectory of their lives. The life course is defined as the coalescing of age-graded trajectories, such as career pathways. Overall, this perspective provides a comprehensive framework to examine the dynamics of several interrelated approaches to retirement (Elder, 1994).

Transitions and trajectories may be the most important concepts in the life-course framework. Transitions refer to changes in status over time (e.g., from employment to retirement), while trajectories refer to life development across comparatively stable status (e.g., individual development pattern in retirement). Life-course research should examine not only the "retirement transition" event itself but also take a more holistic perspective that describes entire patterns of trajectories of the individual (Aisenbrey & Fasang, 2010; Worts et al., 2016). In this

dissertation, retirement transition refers to the combined form of later-life employment (e.g., full-time, part-time, self-employment) and retirement (e.g., partial retirement, voluntary retirement), and trajectories mean the individual's history that follows the same individual's retirement transition through a panel data set. Since sequences imply a chronologically ordered set of transitions (Giele & Elder, 1998), retirement transition sequences refer to the individual's chronological status of retirement transition, which reflects the comprehensive nature of the life course perspective.

In this view, retirement is assumed as a process instead of a single life event. Indeed, evidence in the current literature suggests that older adults go through complex labor market transitions that may span a number of years and involve multiple phases, such as downshifting from full-time to part-time work or bridge employment (Beehr, 2014; Cahill et al., 2015; Skoog & Ciecka, 2010). Particularly, this perspective's emphasis on social and temporal embeddedness places retirement within the framework of an individual's prior career trajectory and ongoing situational challenges and opportunities (Reliey et al., 1994, Moen, 1996). For example, eligibility for a public pension, which is based on a lengthy period of stable full-time work or by years of employment instability, may influence whether retirement can be the beginning of a period of "leisure" or the continuation of a series of low-paid, part-time jobs that may have different outcomes (McDonough et al., 2017). In this context, mapping the employment patterns as a whole, rather than focusing solely on retirement, is an important first step toward a deeper understanding of the relationship between extended working lifetimes and well-being in later life.

Three life-course themes are crucial for understanding the interplay between retirement transition sequences and well-being: process, timing, and context. First, process refers to the

various pathways that lead to change. Retirement is a series of role transitions rather than a single event (Szinovacz, 2013). The process draws attention to role trajectories or the ways roles play out over the life course. For example, the retirement transition reflects a mixture of continuity and change in career roles and positions over the life course. An important proposition of the life-course perspective is an understanding of one's life phase (e.g., retirement) in the large context of life pathways. From the life-course perspective, retirement transition can be explained best with previous employment history (Wahrendorf et al., 2018).

Second, the life-course perspective emphasizes the importance of timing, which notes when transitions occur (Elder et al., 1996). Since role entries or exits that are "off-time," described as earlier or later than is socially prescribed, may be more stressful than "on-time" role transition (George, 1993), those who retire "early" or "late" may experience retirement very differently from those who retire closer to the traditional retirement age norm (Moen et al., 2000). Sequence analysis (Abbott, 1995) is a unique empirical methodology to examine the process and timing of retirement transition through the large context of an individual's life pathways under the guidance of the life-course perspective. Sequence analysis has garnered a central role in life-course studies by providing a comprehensible overall picture of sets of individual categorical sequences (Ritschard & Studer, 2018).

Third, context refers to the unique environment that shapes the individual life course, including the retirement transition. Particularly, the life-course perspective encourages researchers to consider factors at the micro-, meso- and macro-levels of analysis surrounding the individual (Mayer, 2009). Contextual characteristics such as gender and birth-cohort are bases of stratification that widen or narrow opportunity at multiple points in employment and retirement in one's life course (Ekerdt, 2010). From the life-course perspective, retirement transition can be

assumed as a variable with outcomes from the individual factor (micro-level) and social structures (macro-level).

Although retirement intertwines significantly with many other decisions during the life course (Hewko et al., 2018), gender is a key contextual factor influencing the retirement transition (Moen, 1996; Schulz & Binstock, 2008). For example, the traditional gender role of caregiving for family members was given to women as wives, mothers, and daughters, which means women take more time away from employment for family responsibilities, and they become disadvantaged compared to men in terms of pension, Social Security, and other financial resources in retirement (Quadagno, 1995). Unanticipated and crisis events, such as a high percentage of widowhood or major illness among females (Moen et al., 2000), may be associated with mental health. Specifically, being male or female shapes the different patterns of family and individual work history throughout life (Moen, 1996). Men are considered the breadwinners in society, and work is a central role in their lives, reflected by a much more continuous employment career than women. Conversely, women show more diverse career paths and are more likely to leave the labor market after marrying and having children, as well as retire early to perform caregiving roles for family members (Fisher et al., 2016; Han & Moen, 1999). Thus, numerous women return to work in part-time positions or remain outside the labor force (Madero-Cabib, 2015; Tang & Burr, 2015). In this context, I expect men and women might have different retirement transition sequences due to their gender roles in society and gender disparities in the social structures.

In general, the link between retirement transition and well-being can be best understood using the life-course perspective, as it highlights the dynamic processes of development and changes over the lifespan (Kim & Moen, 2002). In particular, the life-course

perspective can be effectively used with longitudinal data to explain how and why specific life-course transitions influence well-being (Hagestad, 1990). Overall, this perspective provides an inclusive framework for investigating the dynamics of diverse, interdependent paths (Elder Jr., 1994) of retirement transition sequences and their relationships with well-being.

Research Questions and Hypotheses

To address the research gaps, this study uses gender-split data from seven waves (2004−2016) of the Health and Retirement Study (HRS). First, this study identifies the retirement transition sequences by gender. Then this study investigates the associated socio-demographic factors with the sequences. Finally, this study examines how retirement transition sequences are associated with well-being in later life. The three research questions (RQ) in this study are listed below.

RQ 1: What types of retirement transition sequences emerge by gender?

H1-1: In both men and women, but particularly women, I expected to find some tendency toward heterogeneous retirement transition.

H1-2: I expected that women's retirement transition sequences would have a higher proportion of involuntary retirement transition than men.

RQ 2: How are the sociodemographic characteristics associated with each retirement transition sequence different by gender?

H2: Based on the existing literature, I expected that there will be gender differences in certain sociodemographic factors (e.g., caregiving responsibility) associated with each retirement transition sequence.

RQ 3: To what extent does an association between each retirement sequence and well-being exist and how does it differ by gender? I explore whether and to what extent the retirement transition sequences and well-being are associated.

CHAPTER 3: RESEARCH PLAN AND METHODS

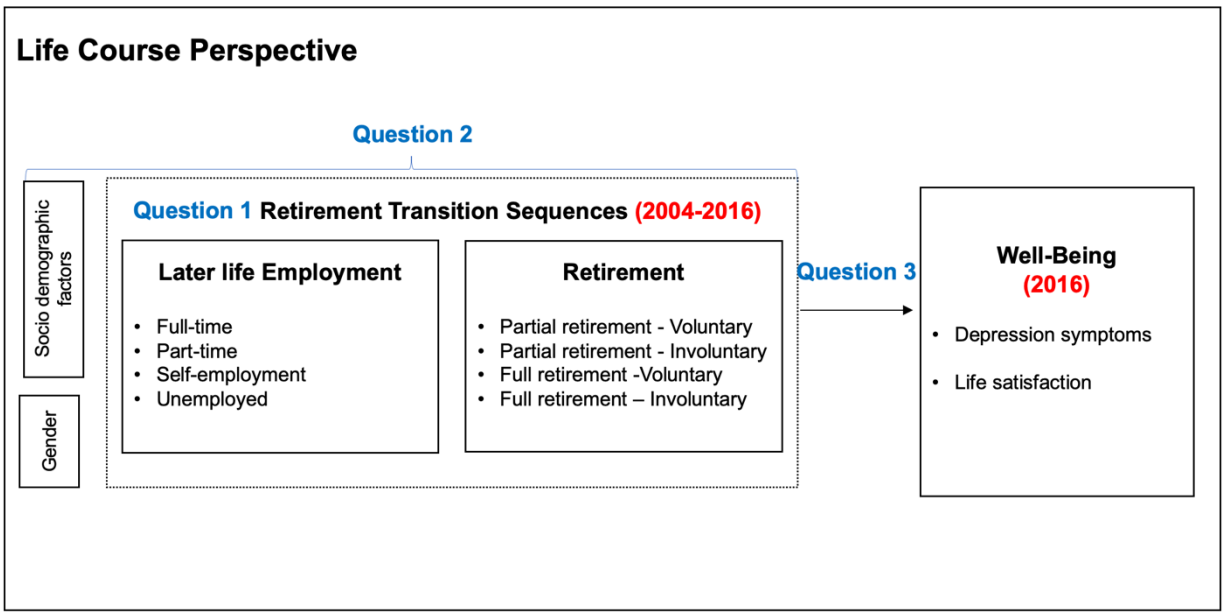
This chapter describes the proposed conceptual model in the dissertation. Next, methods used in the dissertation are introduced, including data source and sampling selection, measurements, and data analytic approach for each research question.

Conceptual Model

As shown in Figure 3.1, I locate the retirement transition sequences and associated well-being in the broader context of gender, which in turn, shape the timing of and choice regarding retirement transition, the structural and situational challenge in society, and past historical working experiences.

Firstly, I am interested in identifying the retirement transition sequences in later life by gender (RQ 1) and the relationship between social-demographic characteristics and retirement transition sequences (RQ 2). For the next step, I estimate the effect of retirement transition sequences on well-being in later life (RQ 3). I implement all of the analyses separately by gender because the previous literature points out important gender differences in all considered relationships (retirement transition sequence, well-being) in this research.

Figure 3.1 Conceptual model of the research linking retirement transition sequences and well-being outcome



Data and Sampling Strategy

Data Source

This study uses the Health and Retirement Study (HRS), which is a nationally representative longitudinal study that biennially surveys more than 37,000 adults aged 50 years and older and their spouses/partners in the United States (Sonnega et al., 2014). The HRS collects information on economic, health, social, and other factors relevant to aging and retirement (Liu & Guo, 2015). Although HRS data is currently available from 1992 to 2018, 2018 data (Early version 1, released on Dec 18, 2019) only provides partial information at this point. Therefore, 2018 data are not used in the study for this dissertation. HRS was produced and distributed by the University of Michigan with funding from the National Institute on Aging (NIA U01AG009740; Sheehan et al., 2018). Regarding the HRS survey sample, of the original

HRS cohort (born 1931-1941), 12,652 completed the survey in 1992 (wave 1), and 6,624 completed the questionnaires in 2014 (wave 12), revealing a retention rate of 52.35% (HRS, 2017). To fill in the gaps for the representatives of the population over age 50 in the United States, additional cohorts were included later (Asset and Health Dynamics of the Oldest Old in 1993, Children of the Depression in 1998, War babies in 1998) as shown in Figure 4. In addition, to employ a steady-state design, HRS employs a new six-year birth cohort sample every sixth year (Early baby boomers in 2004, Mid baby boomers in 2010, Late baby boomers in 2016; Sonnega et al., 2014).

HRS is the ideal data set for this dissertation in retirement transition sequences for several reasons. First, the HRS's longitudinal design is the most critical feature of the dataset. The panel data obtained from the HRS allows me to develop a more dynamic pattern of the labor market model. The transition to retirement is frequently the outcome of a complicated process of labor market changes rather than a single event. The HRS dataset allows better capture of the fluid nature of employment. It identifies heterogeneous pathways that lead to permanent labor market departure by tracking the labor market behaviors of individuals at each wave (Flippen, 2005). Second, since the HRS collected extensive information about labor force participation in the current or most recent job for all respondents, the HRS is ideally suited for this study to investigate late-life employment history and retirement transition across gender (Flippen, 2005). Extensive previous research on work in old age has used the HRS to document trends and characteristics in retirement transition (e.g., Calvo et al., 2009; Wang & Matz-Costa, 2019; Calvo et al., 2017; Rhee et al., 2016; Fisher et al., 2016). Finally, the study provides a relatively large and rich dataset that allows for exploring the magnitude of differential retirement transition sequences and their influence on well-being in later life.

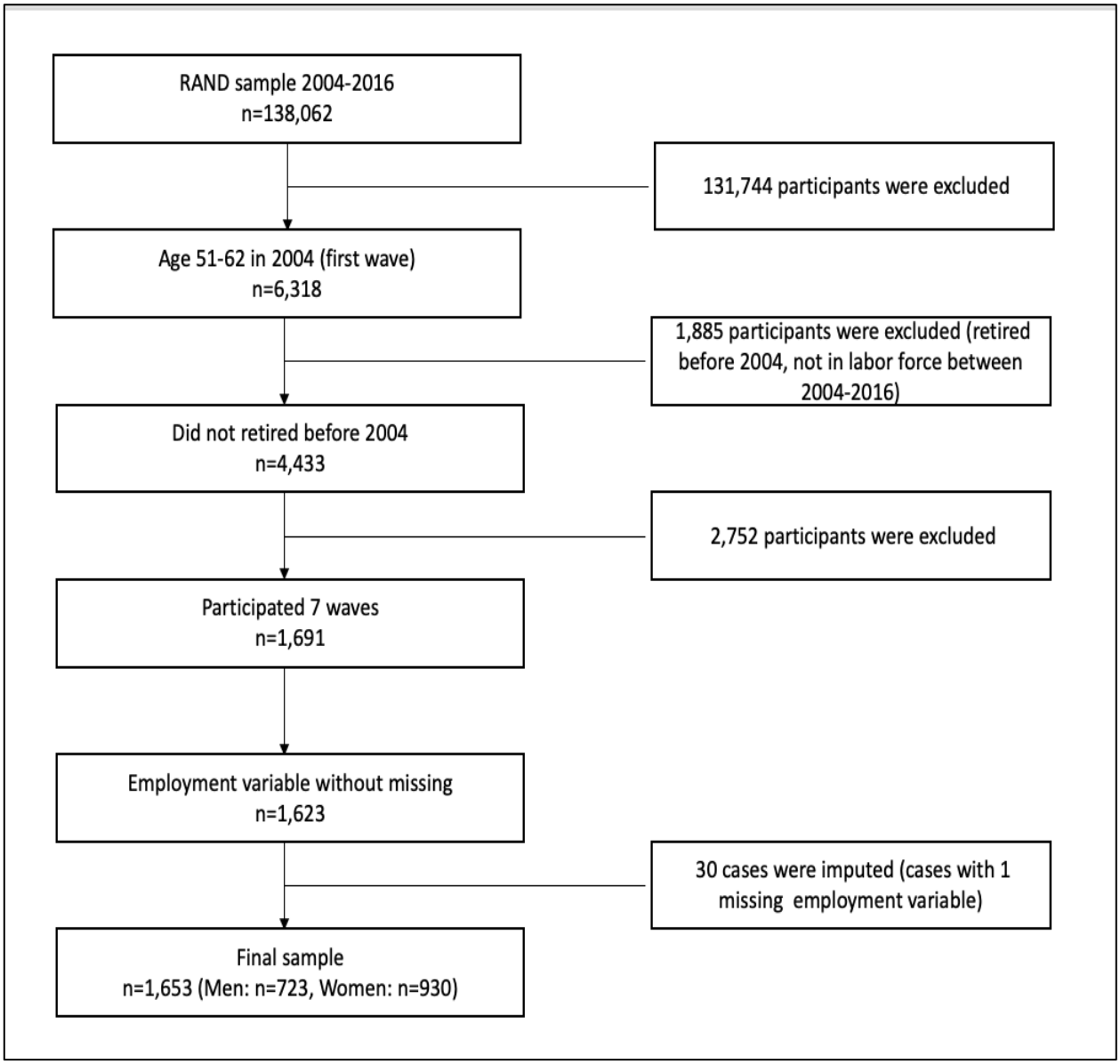
Sample Selection

The presented study uses seven waves (2004-2016) of a gender split subsample. Those aged 51-62 in 2004 and who reported they retired between 2004 and 2016 were included in the sample. Individuals who retired before 2004, had not retired between 2004 and 2016, or had not participated in the labor market during the period were excluded from the study sample. The bottom age cut-off in 2004 was chosen as 51 because it was the youngest age in the dataset to follow 12 years of labor force participation and the top age cut-off was 62 years in 2004, based on the early state pension age eligibility (62 years old) in the U.S (see Table 3.1). The specific sample selection flow was described in Figure 3.2. The final research sample was 1,653 (men: n=723, women: n=930). Multiple imputations were used to impute any missing values of control variables and dependent variables.

Table 3.1 Sample's age

	2004	2006	2008	2010	2012	2014	2016
Sample's age	51-62	53-64	55-66	57-68	59-70	61-72	63-74

Figure 3.2 Sample selection flow chart



Measurement

Retirement Transition

Two key concepts are used to construct retirement transition sequences: later life employment and retirement. Later life employment is categorized into working full-time, part-

time, unemployed, disabled, and not in the labor force (Calvo et al., 2017). If the respondent worked 35 or more hours per week, 36 or more weeks per year, it was considered as full-time. Working less than this was considered as part-time. When assessing whether the respondent was working full-time or part-time, the working hours and weeks from both the main and second jobs were considered. If the respondent was not working but was looking for a job, it was coded as unemployed.

The retirement variable was categorized as partial retirement-voluntary, partial retirement-involuntary, full retirement-voluntary, and full retirement-involuntary. If the respondent worked part-time and mentioned retirement, they were coded as partial retirement. The voluntariness of retirement was identified using the question, "Thinking back to the time you retired, was that something you wanted to do or something you were forced into?". If the respondent answered as "forced," it was considered as involuntary retirement; if the answer was "wanted," it was coded as voluntary retirement. The approach helps to account for different forms of retirement transition by providing information on working and retirement status with biennial information for each individual in seven waves (2004-2016: 12 years).

Well-being

Well-being was assessed with two indicators: depression symptoms and subjective well-being. Well-being variables in the last wave (2016) were used. Depression symptoms were measured using the Center for Epidemiological Studies-Depression (CES-D) symptoms index score. Using the 8-item version of the instrument, respondents were asked to respond yes /no whether (1) they were depressed, (2) everything "felt like an effort," (3) their sleep was restless, (4) they were happy, (5) they were lonely, (6) they enjoyed life, (7) they felt sad, and (8) they

could not "get going" during the last 12 months. Positive questions were reverse coded, and sum scores of the eight items were used. Higher scores reflect higher depressive symptoms, while lower scores refer to lower depressive symptoms (0-8).

Life satisfaction was measured using the question “Please think about your life as a whole. How satisfied are you with it? Are you completely satisfied, very satisfied, somewhat satisfied, not very satisfied, or not at all satisfied?” Participants were asked to rate the extent to which they agreed with statements about their life on a 5-point scale, where 1 = "Not at all satisfied" and 5 = "Completely satisfied". Higher scores indicate a better life satisfaction status (1-5).

Covariates

Marital status & spouse's working status was coded into three categories: not married, married with a working spouse, married with a not working spouse. Education was coded into three categories: Less than high school, high school, college, and above. Race & ethnicity was coded as 0 (non-White) and 1 (White). The age group was coded as 0 (63-68) and 1 (69-74). Poverty was coded into three categories: poor, near-poor, and non-poor. It was based on the ratio of family income to poverty threshold (≤1: poor, 1- 1.25: near-poor, > 1.25: non-poor). Marital status & spouse's activities of daily living (ADL) status was into three categories: not married, married with a spouse without ADL, married with a spouse with ADL. Major job skill level was coded as 0 (low-level skill job), 1 (middle-level skill job), and 2 (high-level skill job) based on the literature (Carnevale et al., 2016). Self-rated health (0-4) was used as a continuous variable. A higher score refers to better self-rated health. The number of children and depressive

symptoms scores in 2004 were also used as covariates. Life satisfaction in 2004 was not included in the analysis because there was no available variable.

Analyses

Overview of the Data Analysis Approach

This dissertation proposes three research questions to examine the relationship between retirement transition sequences and well-being in later life. RQ1 aims to identify the retirement transition sequences using sequence analysis. RQ2 was to examine the association with sequences and sociodemographic characteristics using the bivariate analysis. RQ3 investigates how the retirement transition sequences are associated with late-life mental health and psychosocial well-being using ordinary least squares (OLS) regression analysis.

Sequence analysis (RQ 1)

I used sequence analysis to identify retirement transition sequences, creating sequence data for each individual. This method is based on a set of dynamic algorithms that are commonly used to examine DNA strings in molecular biology. It was introduced to the realm of the social sciences by Andrew Abbott in the 1980s (Abbott & Forrest, 1986). Sequence analysis has become increasingly important in the field of social sciences as a powerful tool (Brzinsky-Fay, Kohler, & Luniak, 2006; Gabadinho et al., 2011; Halpin, 2014). Particularly, sequence analysis provides a visual representation of index plots that display the evolution of the cross-sectional distribution at successive time points and show a 'big picture' of the state dynamics in population-level studies (Ritschard & Studer, 2018). Sequence analysis is a valuable tool for life-course analysis by highlighting the diversity of life patterns in a way that cannot be achieved

with traditional statistical modeling (Eerola, 2018). Despite a few criticisms (Wu, 2000; Elzinga, 2003), it is now widely recognized as a useful tool for life course scholars (Aisenbrey & Fasang, 2009).

Retirement transition sequences were constructed for each individual using 12 years of data; these were then categorized using Dynamic Hamming (DH) distances (Lesnard, 2010). DH distances are a type of metric that represents the 'cost' of converting one person's sequences to that of another. As a result, they quantify how similar or distinct individual biographies are (Abbott & Tsay, 2016). When calculating distances across sequences, avoiding insertion and deletions guarantees that the timing of transitions between alternate states is preserved. It also eliminates the arbitrary nature of researcher-based cost assignment for insertions and deletions. The DH algorithm requires complete data on the sequence variables to classify labor market trajectories (Halpin, 2017). DH was implemented in Stata 14 using the -sadi- program. To retain as many cases as possible, I imputed any missing parts of a sequence (affecting 30.61% of cases in the analytic sample for men, 12.47% for women). Values were filled in using multiple imputations for categorical time-series implemented in Stata -mice-. In brief, the method computes the posterior distribution of each missing value in an imputation model based on other variables (Halpin, 2016).

To account for the uncertainty associated with imputation, all analyses are based on a simultaneous analysis of these data sets, averaging them to obtain estimates, and determining standard errors according to Rubin's methods (Rubin, 1987). Despite the fact that some sequence values had to be imputed in some cases, all people in the analytic sample possessed information on labor market conditions for at least half of the year. To avoid relying too heavily on imputed values, I eliminated participants with missing data on two or more of their retirement transition

sequences data points. I ran a sensitivity analysis on a sample of cases with complete information on retirement transition sequences. The results of the regression analyses are largely the same for both analyses, though significance levels are sometimes lower for the non-missing sample. There was no overall difference in well-being between those who had imputed sequence variables and those who did not.

To be specific regarding the sequence analysis process, I calculated distances relative to a set of ideal 'model' retirement transition sequences that were identified using the labor force participation and specified retirement transition among older men and women in the U.S. Employment states that were mostly steady over time, such as being employed full-time or part-time throughout, or being unemployed throughout, are examples of the working history. Sequences were built based on the incumbents' downshifted retirement transition and various work pathways (e.g., retiring from longer-term part-time and full-time work). Thus, this approach provides a chance to incorporate the complexity of retirement transition trajectories, including various retirement types that involve gradual exits or voluntary full retirement. The model biographies were included in the dataset as reference sequences for matching and removed once the cases matched to their closest model. Within-group homogeneity and between-group heterogeneity were examined using the information on individuals' 'own-group' distance metrics to ensure the model sequences were valid. Despite the fact that there are no statistical criteria for evaluating absolute degrees of variance, I can observe several points of evidence based on their relative values. Regardless of the validity tests, it's important to remember that the retirement transition sequence model groups aren't internally homogeneous, but rather reflect clusters of people with comparable career histories and retirement types (Ritschard & Studer, 2018).

Drawing on the pairwise distance matrix, cluster analysis was conducted to classify individual sequences into homogeneous types. I used the Ward hierarchical clustering method to individual agglomerate sequences and create sequence groups of individual sequences. To determine the most discriminant number of sequence types, I combined insights from statistical fit measures and from the visual inspection of the dendrogram with the need to obtain a substantively interpretable solution following common practice in cluster analysis (Arpino et al., 2018). Duda-Hart is one way of cluster analysis that uses the sum of squares in the two clusters, divided by the sum of squares in the combined cluster. This compares the sum of squares in the next pair of clusters to be combined, before and after combining (Duda et al., 2000). The Duda-Hart analysis provides the Duda-Hart T-squared statistic, which takes into account the number of cases (Halpin, 2016). The best number of clusters was based on the indices with the largest Je(2)/Je(1) values that correspond to a low pseudoT-squared value that has a much larger T-squared value next to it (StataCorp, 2014). Data were analyzed using Stata 14.0.

Bivariate analysis (RQ 2)

Chi-square and t-tests were used to examine the association between retirement transition sequences and sociodemographic characteristics, including race, education, marital & spouse work, marital & spouse ADL, income, depression, self-rated health, and main job level and age group by gender. Bivariate techniques, such as complicated sample cross-tabulation, were also used to investigate the correlations between the research variables (Rhee, 2013). This model used bivariate analysis to better comprehend the association between the sociodemographic variables and retirement transition sequences.

Ordinary least squares (OLS) regression analysis (RQ 3)

Ordinary least squares (OLS) regression analysis was conducted to estimate the relationship between retirement transition sequences and mental health status. OLS regression is one of the most popular techniques used for data analysis (Astivia & Zumbo, 2019), in which parameter estimates are chosen to minimize the quantity of residual sum of squares (Weisberg, 2005). In this dissertation, retirement transition sequences were placed as an independent variable with well-being variables (depressive symptoms, subjective well-being) as a dependent variable to show the association between the retirement transition sequences and well-being. Multiple imputations were conducted with any missing parts of well-being variables (affecting 28 cases, 1.69% of cases in the analytic sample for depression, 29 cases, 1.75% for life satisfaction). The analyses are conducted separately by using Stata 14.0.

CHAPTER 4: RESULTS

Descriptive Analysis

The descriptive statistics of the study's sample are presented in Table 4.1. Among the total sample, men accounted for 43% and women 57%. By race, most of the sample was White (78.95%), and by education, more than half of the sample had a high school diploma. Whereas approximately 33% of the sample was not married, 47.84% of the sample was married to a spouse who was not working. Beyond that, approximately 53% of the sample had a spouse without ADL, while approximately 7% had a spouse with ADL. Among men, being married and having a spouse who is not working was prevalent (58.05%), while being married to a spouse without ADL had a prevalence of 73.31% and having a low-skill job was the most prevalent occupation (46.63%), followed by having a high-skill job (37.48%). Among women, being married to a spouse without ADL was the most prevalent condition (48.61%), followed by being unmarried (44.84%), and having a middle-skill job was the most prevalent occupation (43.98%), closely followed by having a high-skill job (42.52%).

Table 4.1 Descriptive statistics of the sample

	% or M (SD)		
	Total (n=1,653)	Men (n=723)	Women (n=930)
Race			
Non-White	348 (21.05)	151 (20.89)	197 (21.18)
White	1,305 (78.95)	572 (79.11)	733 (78.82)
Education			
<High school	215 (13.02)	102 (14.13)	113 (12.16)
High school	485 (29.38)	195 (27.01)	290 (31.22)
High school +	951 (57.60)	425 (58.86)	526 (56.62)
Marital & spouse work			
Not married	534 (33.44)	130 (18.68)	404 (44.84)
Married/not working spouse	764 (47.84)	404 (58.05)	360 (39.96)
Married/working spouse	299 (18.72)	162 (23.28)	137 (15.21)
Marital & spouse ADL			
Not married	534 (33.42)	130 (18.65)	404 (44.84)
Married/no spouse ADL	949 (53.39)	511 (73.31)	438 (48.61)
Married/ spouse ADL	115 (7.20)	56 (8.03)	59 (6.55)
Adjusted income (log)	10.79 (1.07)	10.85 (1.13)	10.74 (1.01)
Number of children	2.91 (1.91)	2.87 (2.02)	2.94 (1.82)
Depressive symptoms			
2004 (0-8)	1.16 (1.74)	1.0 (1.64)	1.27 (1.80)
2016 (0-8)	1.14 (1.79)	0.98 (1.63)	1.27 (1.89)
Life satisfaction			
2016 (1-7)	3.92 (0.78)	3.97 (0.75)	3.89 (0.79)
Self-rated health			
2004 (0-4)	2.53 (0.97)	2.55 (0.97)	2.52 (0.98)
2016 (0-4)	2.18 (1.0)	2.13 (0.99)	2.23 (0.97)
Main job Occ			
Low skill	432 (27.64)	311 (46.63)	121 (13.50)
Middle skill	500 (31.99)	106 (15.89)	394 (43.97)
High skill	631 (40.37)	250 (37.48)	381 (42.52)
Age group			
63-68	765 (46.28)	333 (46.06)	432 (46.45)
69-74	888 (53.72)	390 (53.94)	498 (53.55)

Sequence Analysis

Sequence analysis compares each individual's sequence of employment and retirement with the sequence of all others. Participants matched their 'ideal types,' and there was no overlap between the mean distances. The chronograms of men's and women's employment–retirement

are shown in Figure 4.1 and Figure 4.2. The y-axis of the graph indicates the case number of the group, whereas the x-axis corresponds to the year analyzed.

Among the men in the sample, eight types of possible employment and retirement trajectories were identified: (1) *full-time work to late voluntary retirement*, (2) *full-time work to late involuntary retirement*, (3) *full-time work to mid-time voluntary retirement*, (4) *full-time work to early voluntary retirement*, (5) *voluntary partial retirement*, (6) *part-time work to mid-time involuntary retirement*, (7) *early involuntary retirement*, and (8) *self-employment to late retirement*. The first type, *full-time work to late voluntary retirement* (n=113, 15.63%), describes individuals who had worked full-time and transitioned to retirement voluntarily around 2012 which was a late time point of the research observation. The second type, *full-time work to late involuntary retirement* (n=61, 8.44%), describes individuals who worked full-time but transitioned to retirement involuntary around 2010, which was a late point of the research observation. The third type, *full-time work to mid-time voluntary retirement* (n=136, 18.81%), refers to individuals who transitioned from full-time work to voluntary retirement around 2008, which was a mid-time point of the observation; this group was the most dominant group among men in the sample. The fourth type, *full-time work to early voluntary retirement* (n=128, 17.7%), refers to individuals who worked full-time and transitioned to retirement voluntarily around 2004, which was an early time point of the observation; this group was the second-largest group among men in the sample. The fifth type, *voluntary partial retirement* (n=74, 10.24%), describes individuals who partly retired voluntarily during the survey period of 2004 –2016, whereas the sixth type, *part-time work to mid-time involuntary retirement* (n=96, 13.28%), describes individuals who worked part-time but retired involuntarily around 2008 which was a mid-time point of the survey period. The seventh type, *early involuntary retirement* (n=57, 7.88%), refers

to individuals who retired involuntarily after 2004, which was an early time point of the research. Last, the eighth type, *self-employment to late retirement* (n=58, 8.02%), refers to individuals who were self-employed and transitioned to retirement during 2004-2016.

Among the women in the sample, eight types of possible employment and retirement trajectories were also identified: (1) *part-time to late voluntary retirement*, (2) *full-time work to gradual voluntary retirement*, (3) *self-employment to retirement*, (4) *early voluntary retirement*, (5) *full-time work to voluntary partial retirement*, (6) *full-time work to late voluntary retirement*, (7) *gradual involuntary retirement*, and (8) *part-time work to involuntary retirement*. The first type, *part-time to late voluntary retirement* (n=52, 5.59%), describes individuals who worked part-time and transitioned to voluntary retirement after 2012, which was a late time point of the observation. The second type, *full-time work to gradual voluntary retirement* (n=75, 8.06%), describes individuals who worked full-time and gradually retired voluntarily during the survey period of 2004 -2016. The third type, *self-employment to retirement* (n=54, 5.81%), refers to individuals who were self-employed and later retired. In contrast, the fourth type, *early voluntary retirement* (n=130, 13.98%), refers to individuals who retired voluntarily after 2004, which was an early time point of the survey period. The fifth type, *full-time work to voluntary partial retirement* (n=183, 19.68%), describes individuals who worked full-time and transitioned to voluntary partial retirement between 2004-2016. The sixth type, *full-time work to late voluntary retirement* (n=153, 16.45%), describes individuals who worked full-time and retired voluntarily around 2012, which was a late time point for the observations. The seventh type, *gradual involuntary retirement* (n=191, n=20.54%), refers to individuals who gradually retired involuntarily, whereas the eighth and final type, *part-time work to involuntary retirement* (n=92, 9.89%), refers to individuals who worked part-time and transitioned to involuntary retirement.

Figure 4.1 Chronograms of retirement transition among men sample

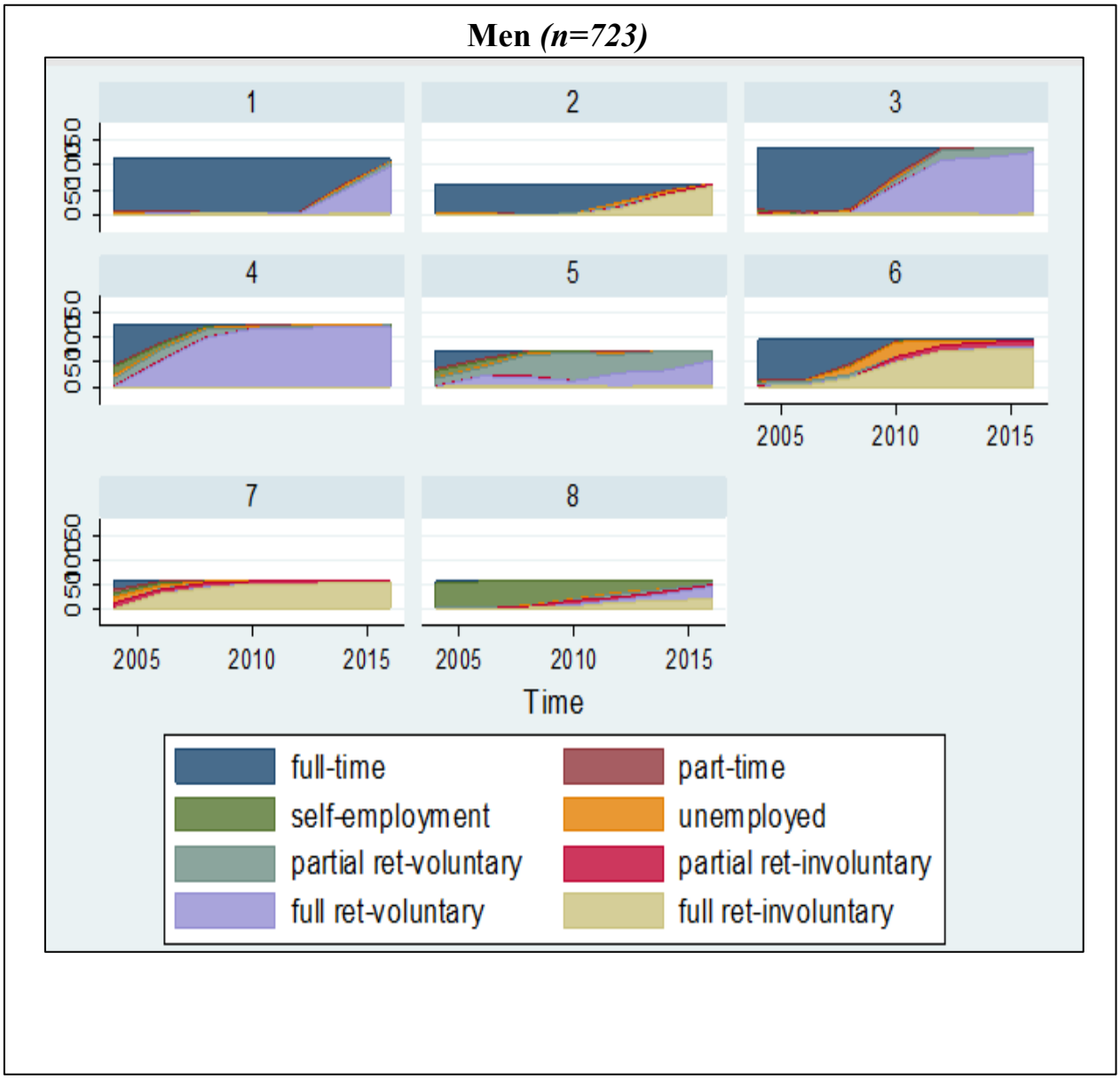
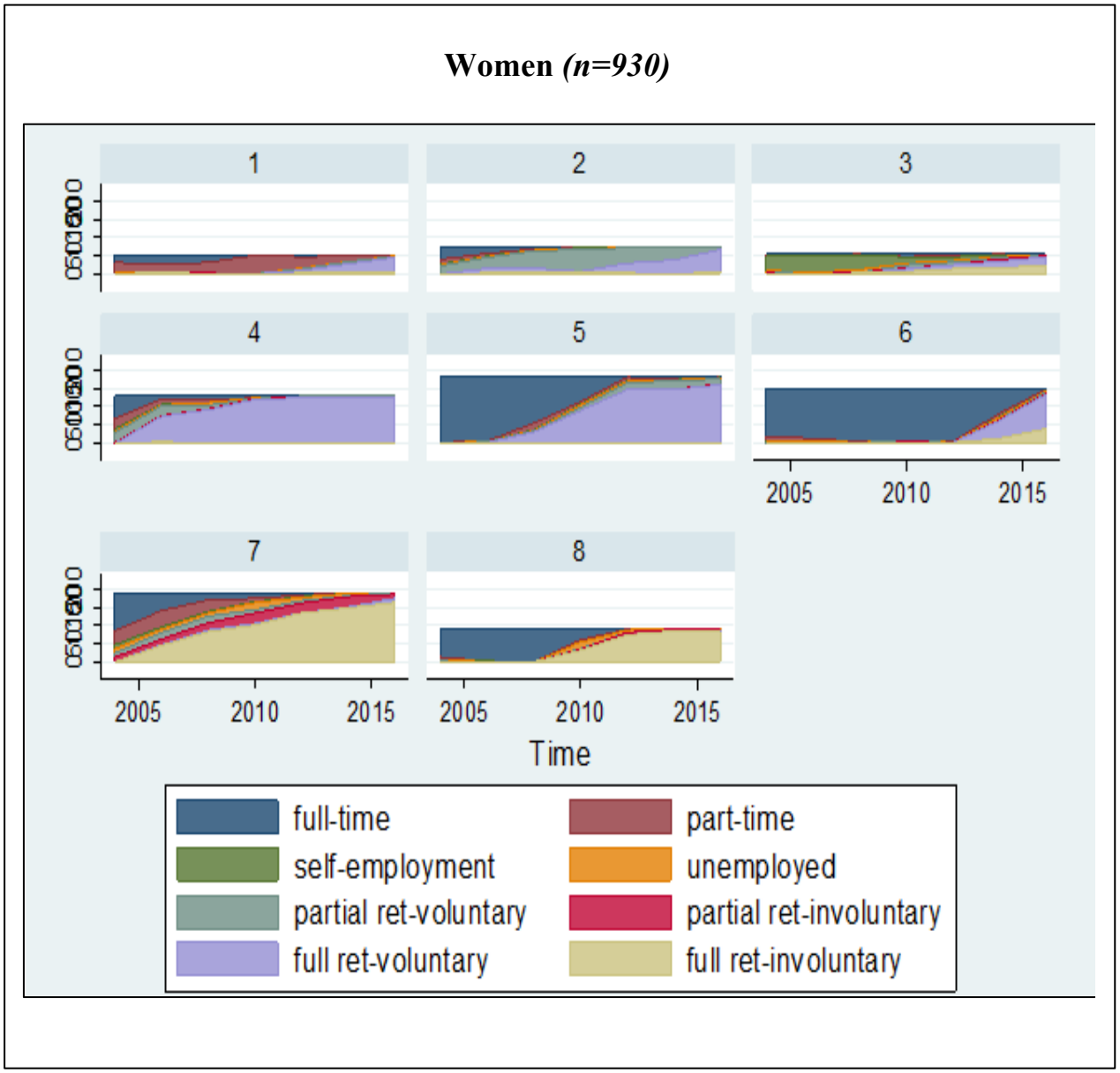


Figure 4.2 Chronograms of retirement transition among women sample



Bivariate Analysis

Next, bivariate analysis was conducted for each profiled sequence for both genders (see Table 4.2). For men in the sample, the *full-time work to late voluntary retirement group* was associated with a medium level of major occupation (25.49%). Next, the full-time to late involuntary retirement group was associated with being non-White (32.79%), married with a working spouse (39.66%), and 61–68 years old (72.13%). Meanwhile, the *full-time work to early voluntary retirement group* was associated with being married to a non-working spouse (65.57%). The *partial voluntary retirement group* was related to being White (90.54%), having the highest log-transformed income level (11.19), and best self-rated health in the last wave (2.51), and highest life satisfaction (4.12). By contrast, the *part-time work to mid-time involuntary retirement* was associated with having the lowest log-transformed income level (10.60) and a low-skill job (61.11%). Last, *early involuntary retirement* was related to being unmarried (28.57%), having the lowest life satisfaction (3.82), and having the worst self-rated health in the first wave in 2004 (2.02). All of those differences were statistically significant ($p \leq 0.05$).

In sum, men in the *full-time work to mid-time voluntary retirement group* had the most advantages. They were more likely to be college-educated, in better health, and have greater household wealth and income than all other groups. However, men in *the part-time work to mid-time involuntary retirement group* were more likely to be disadvantaged than others; they were considerably more likely to be of minority status, to be unmarried, and, perhaps not surprisingly, to have the lowest median level of household income and wealth.

Table 4.2 Bivariate analysis among men sample

Men (n=723)	1 Full time -> late vol retirement	2 full time -> late invol retirement	3 full time -> mid vol retirement	4 full time -> early vol retirement	5 partial vol retirement	6 part time -> mid involuntary retirement	7 early involuntary retirement	8 self-employment -> late retirement	Chi2 / Anoa
Education									15.76
<High school	9.73	14.75	13.97	13.28	6.85	19.79	19.3	18.97	
High school	28.32	21.31	28.68	24.22	27.4	31.25	31.58	20.69	
High school +	61.95	63.93	57.35	62.5	65.75	48.96	49.12	60.34	
White									
Non-White	18.58	32.79	22.79	19.53	9.46	21.88	19.3	25.86	12.89+
White	81.42	67.21	77.21	80.47	90.54	78.13	80.7	74.14	
Marital & spouse work									26.31*
Not married	20.18	15.52	21.88	15.57	9.59	18.09	28.57	21.43	
Married/not working spouse	56.88	44.83	60.94	65.57	61.64	62.77	48.21	48.21	
Married/ working spouse	22.94	39.66	17.19	18.85	28.77	19.15	23.21	30.36	
Marital & spouse ADL									8.92
Not married	20.18	15.52	21.71	15.57	9.59	18.09	28.57	21.43	
Married/no spouse ADL	77.06	70.69	68.99	76.23	84.93	71.28	64.29	69.64	
Married/ spouse ADL	2.75	13.79	9.3	8.2	5.48	10.64	7.14	8.93	
Poverty									17.21
Poor	4.42	13.11	5.88	3.91	2.7	3.13	5.26	3.51	
Near-poor	3.54	3.28	2.94	0.78	0	3.13	3.51	5.26	
Non-poor	92.04	83.61	91.18	95.31	97.3	93.75	91.23	91.23	
Adjusted income (log)	10.94	10.64	10.79	10.95	11.19	10.60	10.71	10.84	81.44***
Number of children	2.80	2.78	3.11	2.74	2.91	3.11	3.02	2.96	0.54
Depressive symptoms									
2004 (0-8)	0.97	1.05	0.98	0.87	0.40	1.01	1.84	1.40	3.94*
2016 (0-8)	0.66	1.66	0.81	0.82	0.63	1.33	1.39	1.13	4.29**
Life satisfaction									
2016 (1-5)	4.02	3.93	3.95	4.09	4.12	3.85	3.82	3.87	1.79+
Self-rated health									
2004 (0-4)	2.77	2.46	2.46	2.60	2.89	2.38	2.02	2.69	5.70***
2016 (0-4)	2.46	1.80	2.17	2.12	2.51	1.81	1.88	2	6.85***
Main job Occ									
Low skill	33.33	52.63	45.67	42.86	45.45	61.11	58	42.86	
Middle skill	25.49	15.79	18.9	12.61	10.61	12.22	10	16.07	27.54*
High skill	41.18	31.58	35.43	44.54	43.94	26.67	32	41.07	
Age cohort									
63-68	66.37	72.13	47.06	23.44	18.92	50	36.84	63.79	93.71***
69-74	33.63	27.87	52.94	76.56	81.08	50	63.16	36.21	

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

Regarding the women in the sample, the *part-time to late voluntary retirement group* was associated with being White (88.46%). By contrast, the *full-time work to gradual voluntary retirement group* was associated with being married to a working spouse (21.92%), having the

highest life satisfaction (4.07), and the best self-rated health in the first and last waves (2.84 and 2.47, respectively), and being 69–75 years old (80%). Next, *the self-employment to retirement group* was associated with being poor (14.81%). The *early voluntary retirement group* was associated with the highest log-transformed income (10.92), and the *full-time work to mid-time voluntary retirement group* was associated with having a not working spouse (46.02%) and not being poor (93.96%). The *full-time work to late voluntary retirement* was associated with being 61–68 years old (68.63%), while the *gradual involuntary retirement group* was related to being unmarried (53.44%). Last, the *part-time work to involuntary retirement group* was associated with being non-White (28.26%), being married to a spouse with ADL (12.36%), being near-poor (8.7%), and having the lowest life satisfaction (3.57). All of those differences were statistically significant (see Table 4.3).

As with the men in the sample, women's sequences of transitioning to retirement associated with the best and worst health were also divided in terms of advantage. For example, women in the *full-time work to gradual voluntary retirement group* were more likely than any other groups to be highly educated and have higher household income. They are also in better health in their 50s and 60s. Similar to their counterparts who were men, women in *the part-time work to involuntary retirement group were* considerably more likely to be of minority status and to have lower household wealth than the seemingly healthiest group, and a larger proportion of them was unmarried.

Table 4.3 Bivariate analysis among women sample.

Women (n=930)	1 **part time -> late vol retire**	2 **full time -> partial vol retire -> full vol retire**	3 **self-employment -> retire**	4 **early vol retire**	5 **full time -> mid vol retire**	6 **full time -> late vol retire**	7 **partial invol retire -> full invol retire**	8 **part time -> invol retire**	**Chi2 / Anoa**
Education									13.74
<high school	15.38	16	18.52	8.53	9.29	13.07	11.52	14.13	
High school	30.77	25.33	37.04	34.11	28.96	26.8	35.6	31.52	
High school +	53.85	58.67	44.44	57.36	61.75	60.13	52.88	54.35	
White									
Non-White	11.54	17.33	12.96	17.69	20.77	26.14	23.04	28.26	12.13+
White	88.46	82.67	87.04	82.31	79.23	73.86	76.96	71.74	
Marital & spouse work									24.06*
Not married	41.18	36.99	50.98	37.9	37.5	47.3	53.44	51.69	
married/not working spouse	39.22	41.1	29.41	44.35	46.02	37.16	38.1	35.96	
married/ working spouse	19.61	21.92	19.61	17.74	16.48	15.54	8.47	12.36	
Marital & spouse ADL									26.56*
Not married	41.18	36.99	50.98	37.9	37.5	47.3	53.44	51.69	
married/no spouse ADL	54.9	58.9	43.14	55.65	55.68	47.3	40.21	35.96	
married/ spouse ADL	3.92	4.11	5.88	6.45	6.82	5.41	6.35	12.36	
Poverty									29.20*
Poor	5.77	5.33	14.81	3.85	2.75	5.92	9.47	7.61	
Near-poor	1.92	2.67	1.85	2.31	3.3	1.32	5.79	8.70	
Non-poor	92.31	92	83.33	93.85	93.96	92.76	84.74	83.70	
Adjusted income (log)	10.80	10.80	10.67	10.92	10.81	10.80	10.49	10.52	22.51***
Number of children	1.87	2.11	1.70	1.76	1.79	1.89	1.67	1.95	0.66
Depressive symptoms									
2004 (0-8)	0.94	0.72	1.34	1.25	1.05	1.07	1.78	1.61	3.88***
2016 (0-8)	1.06	0.95	1.28	1.15	0.95	1.12	1.69	1.80	4.62***
Life satisfaction									
2016 (1-5)	3.90	4.07	3.93	4.06	3.98	3.90	3.75	3.57	5.01***
Self-rated health									
2004 (0-4)	2.71	2.84	2.48	2.54	2.66	2.66	2.23	2.24	6.14***
2016 (0-4)	2.31	2.47	2.23	2.25	2.42	2.29	2.01	1.91	4.80***
Main job Occ									14.77
Low skill	8	12.68	19.23	12	11.54	12.77	15.51	17.05	
Middle skill	56	42.25	55.77	44	41.21	42.55	41.18	45.45	
High skill	36	45.07	25	44	47.25	44.68	43.32	37.5	
Age cohort									89.33***
63-68	63.46	20	50	26.15	45.9	68.63	40.84	60.87	
69-74	36.54	80	50	73.85	54.1	31.37	59.16	39.13	

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

Ordinary least squares (OLS) regression analysis

Depressive symptoms

To understand the association between the profiled sequences of transitioning to retirement and depressive symptoms in the last wave, I conducted an OLS regression analysis. For the men in the sample, six groups (i.e., *full-time work to late voluntary retirement, full-time work to mid-time voluntary retirement, full-time work to early voluntary retirement, partial voluntary retirement, early involuntary retirement, and self-employment to late retirement*) were associated with a lower level of depressive symptoms compared to the *full-time work to late involuntary retirement group*. In addition, being married to a non-working spouse, being White, being poor, and having good self-rated health were associated with a low level of depression. However, being near-poor and having depressive symptoms in the first wave were associated with having a higher level of depressive symptoms (see Table 4.4).

Table 4.4 Regression analysis result with depressive symptoms for men sample (reference group: 2. full-time work to late involuntary retirement)

	Coefficient	95% Cl
Retirement transition sequences (*ref: 2. full-time work to late involuntary retirement)*		
1.full time work to late voluntary retirement	-0.68***	-1.13 - -0.22
3. full time work to mid time voluntary retirement	-0.64***	-1.08 - -0.2
4. full time work to early voluntary retirement	-0.56**	-1.01 - -0.11
5. partial voluntary retirement	-0.42+	-0.92 - 0.08
6. part time work to mid time involuntary retirement	-0.30	-0.77 - 0.16
7. early involuntary retirement	-0.48+	-1 - 0.04
8. self-employment to late retirement	-0.60*	-1.12 - -0.08
Marital status + working status (ref: married w/ working spouse)		
Not married	-0.04	-1.37 - 1.29
Married with not working spouse	-0.28*	-0.55 - -0.01
Education (ref: below high school)		
Highschool	-0.14*	-0.5 - 0.23
Above high school	-0.16***	-0.52 - 0.2
Race (ref: non-white)		
White	-0.34*	-0.62 - -0.06
Age group (ref: 63-68 years old)		
69-74 years old	-0.05	-0.28 - 0.18
Poverty (ref:non-poor)		
Poor	-0.51	-1.02 - 0
Near poor	1.03	0.36 - 1.69
Marital Status + spouse ADL (ref: not married)		
Married spouse without ADL	-0.24	-1.58 - 1.09
Married spouse with ADL	-0.80	-2.19 - 0.58
Major job skill level (ref: low level skill job)		
Middle level skill job	-0.16	-0.49 - 0.18
High level skill job	-0.05	-0.33 - 0.23
Self-rated health	-0.44***	-0.55 - -0.32
Number of children	0.00	-0.05 - 0.06
Depression at baseline	0.29***	0.22-0.36
Constant	2.99	

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

For a supplemental analysis, I conducted another OLS regression using a different reference group (see Table 4.5). For the men in the sample, being in the *full-time work to late involuntary retirement group* or the *part-time work to mid-time involuntary retirement group* were associated with a higher level of depressive symptoms compared with being in the full-time

work to late voluntary retirement group. Moreover, being White, being poor, and having good self-rated health were associated with a low level of depression and being near-poor and having depressive symptoms in 2004 were associated with a higher level of depressive symptoms.

Table 4.5 Supplemental regression analysis result with depressive symptoms for men sample (reference group: 1. full-time work to late voluntary retirement)

	Coefficient	95% Cl
Retirement transition sequences (*ref: 1.* full-time work to late voluntary retirement*)*		
2. full time work to late involuntary retirement	0.68***	0.22 - 1.13
3. full time work to mid time voluntary retirement	0.03	-0.33 - 0.4
4. full time work to early voluntary retirement	0.11	-0.27 - 0.49
5. partial voluntary retirement,	0.26	-0.18 - 0.7
6. part time work to mid time involuntary retirement	0.37*	-0.03 - 0.78
7. early involuntary retirement	0.20	-0.27 - 0.66
8. self-employment to late retirement	0.08	-0.39 - 0.54
Marital status + working status (ref: married w/ working spouse)		
Not married	-0.04	-1.37 - 1.29
Married with not working spouse	-0.28*	-0.55 - -0.01
Education (ref: below high school)		
Highschool	-0.14	-0.5 - 0.23
Above high school	-0.16	-0.52 - 0.2
Race (ref: non-white)		
White	-0.34*	-0.62 - -0.06
Age group (ref: 63-68 years old)		
69-74 years old	-0.05	-0.28 - 0.18
Poverty (ref: non-poor)		
Poor	-0.51*	-1.02 - 0
Near poor	1.03***	0.36 - 1.69
Marital Status + spouse ADL (ref: not married)		
Married spouse without ADL	-0.24	-1.58 - 1.09
Married spouse with ADL	-0.80	-2.19 - 0.58
Major job skill level (ref: low skill job)		
Middle level skill job	-0.16	-0.49 - 0.18
High level skill job	-0.05	-0.33 - 0.23
Self-rated health	-0.44***	-0.55 - -0.32
Number of children	0.00***	-0.05-0.06
Depression at baseline	0.29	0.22-0.36
Constant	2.32	

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

For the women in the sample, being in *the full-time work to mid-voluntary retirement* was associated with a lower level of depressive symptoms compared to the *part-time work to involuntary retirement group*. Furthermore, having good self-rated health was associated with a low level of depression, whereas having depressive symptoms in the first wave was associated with a high-level depression (see Table 4.6).

Table 4.6 Regression analysis result with depressive symptoms for women sample (ref: 8. part-time work to involuntary retirement)

	Coefficient	95% Cl
Retirement transition sequences (ref: 8. part-time work to involuntary retirement)		
1.part time to late voluntary retirement	-0.28	-0.87 - 0.3
2. full time work to gradual voluntary retirement	-0.24	-0.77 - 0.29
3. self-employment to retirement	-0.25	-0.82 - 0.32
4. early voluntary retirement	-0.31	-0.77 - 0.15
5. full time work to mid voluntary retirement	-0.37+	-0.8 - 0.05
6. full time work to late voluntary retirement	-0.28	-0.72 - 0.17
7. gradual involuntary retirement	-0.10	-0.52 - 0.33
Marital status + working status (ref: married with working spouse)		
Not married	0.08	-1.11 - 1.28
Married with not working spouse	0.03	-0.3 - 0.36
Education (ref: below high school)		
Highschool	-0.13	-0.53 - 0.26
Above high school	-0.07	-0.47 - 0.33
Race (ref: non-white)		
White	0.14	-0.14 - 0.43
Age group (ref: 63-68 years old)		
69-74 years old	-0.02	-0.26 - 0.21
Poverty (ref: non-poor)		
Poor	-0.07	-0.55 - 0.41
Near poor	0.15	-0.45 - 0.75
Marital Status + spouse ADL (ref: not married)		
Married spouse without ADL	-0.17	-1.34 - 1.01
Married spouse with ADL	0.10	-1.14 - 1.35
Major job skill level (ref: low skill job)		
Middle level skill job	-0.09	-0.46 - 0.28
High level skill job	0.00	-0.39 - 0.4
Self-rated health	-0.55+	-0.68 - -0.43
Number of children	0.01	-0.05 - 0.07
Depression at baseline	0.30***	0.23 - 0.36
Constant	2.37	

Table 4.6 (cont.) Regression analysis result with depressive symptoms for women sample (ref: 8. part-time work to involuntary retirement)

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

Table 4.7 shows the results of the supplemental analysis for women in the sample. Being in the *part-time work to involuntary retirement group* was associated with a higher level of depressive symptoms compared to the *full-time work to mid-time voluntary retirement group*. In addition, having good self-rated health was associated with a low level of depression, whereas having depressive symptoms in the first wave was associated with a high level.

Table 4.7 Supplemental regression analysis result with depressive symptoms for women sample (ref: 5. full time work to mid voluntary retirement)

	Coefficient	95% Cl
Retirement transition sequences (ref: 5. full-time work to mid-voluntary retirement)		
1.part time to late voluntary retirement	0.09	-0.44 - 0.62
2. full time work to gradual voluntary retirement	0.13	-0.32 - 0.59
3. self-employment to retirement	0.12	-0.39 - 0.64
4. early voluntary retirement	0.07	-0.32 - 0.45
6. full time work to late voluntary retirement	0.10	-0.27 - 0.47
7. gradual involuntary retirement	0.28	-0.07 - 0.63
8. part-time work to involuntary retirement	0.37+	-0.05 - 0.8
Marital status + working status (ref: married with working spouse)		
Not married	0.08	-1.11 - 1.28
Married with not working spouse	0.03	-0.3 - 0.36
Education (ref: below high school)		
Highschool	-0.13	-0.53 - 0.26
Above high school	-0.07	-0.47 - 0.33
Race (ref: non-white)		
White	0.14	-0.14 - 0.43
Age group (ref: 63-68 years old)		
69-74 years old	-0.02	-0.26 - 0.21
Poverty (ref: non-poor)		
Poor	-0.07	-0.55 - 0.41
Near poor	0.15	-0.45 - 0.75
Marital Status + spouse ADL (ref: not married)		
Married spouse without ADL	-0.17	-1.34 - 1.01
Married spouse with ADL	0.10	-1.14 - 1.35

Table 4.7 (cont.) Supplemental regression analysis result with depressive symptoms for women sample (ref: 5. full time work to mid voluntary retirement)

Major job skill level (ref: low skill job)		
Middle level skill job	-0.09	-0.46 - 0.28
High level skill job	0.00	-0.39 - 0.4
Self-rated health	-0.55***	-0.68 - -0.43
Number of children		-0.05 - 0.07
Depression at baseline	0.30***	0.23 - 0.36
Constant		

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

Life satisfaction

To understand the association between the profiled sequences of transitioning to retirement and life satisfaction in 2016, I conducted an OLS regression analysis. For the men in the sample, the retirement transition sequences were not associated with life satisfaction, whereas better self-rated health and a lower level of depressive symptoms were associated with higher subjective well-being (see Table 4.8).

Table 4.8 Regression analysis result with subjective well-being for men sample (ref: 2. full-time work to late involuntary retirement)

	Coefficient	95% Cl
Retirement transition sequences (*ref: 2. full-time work to late involuntary retirement)*		
1.full time work to late voluntary retirement	-0.09	-0.32 - -0.14
3. full time work to mid time voluntary retirement	-0.09	-0.31 - 0.13
4. full time work to early voluntary retirement	0.05	-0.18 - 0.27
5. partial voluntary retirement	-0.06	-0.31 - 0.19
6. part time work to mid time involuntary retirement	-0.09	-0.33 - 0.14
7. early involuntary retirement	-0.08	-0.35 - 0.18
8. self-employment to late retirement	-0.08	-0.35 - 0.18
Marital status + working status (ref: married w/ working spouse)		
Not married	0.04	-0.7 - 0.78
Married with not working spouse	0.01	-0.12 - 0.15
Education (ref: below high school)		
Highschool	-0.11	-0.29 - 0.08
Above high school	-0.12	-0.3 - 0.06

Table 4.8 (cont.) Regression analysis result with subjective well-being for men sample (ref: 2. full-time work to late involuntary retirement)

Race (ref: non-white)		
White	0.06	-0.08 - 0.2
Age group (ref: 63-68 years old)		
69-74 years old	0.00	-0.11 - 0.12
Poverty (ref:non-poor)		
Poor	-0.11	-0.26 - 0.03
Near poor	-0.10	-0.27 - 0.07
Marital Status + spouse ADL (ref: not married)		
Married spouse without ADL	0.19	-0.55 - 0.92
Married spouse with ADL	0.10	-0.67 - 0.87
Major job skill level (ref: low skill job)		
Middle level skill job	0.07	-0.1 - 0.23
High level skill job	0.03	-0.11 - 0.17
Self-rated health	0.24***	0.18 - 0.29
Number of children	0.00	-0.02 - 0.03
Life satisfaction at baseline	-0.20	-0.08 - 0.04
Constant	3.47	

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

The supplemental analysis for the men in the sample with the different reference group also revealed a non-significant association between the retirement transition sequences and life satisfaction (see Table 4.9).

Table 4.9 Supplemental regression analysis result with subjective well-being for men sample (ref: 1. full-time work to late voluntary retirement)

	Coefficient	95% Cl
Retirement transition sequences (*ref: 1.* full-time work to late voluntary retirement*)*		
2. full time work to late involuntary retirement	0.09	-0.14 - 0.32
3. full time work to mid time voluntary retirement	0.00	-0.18 - 0.18
4. full time work to early voluntary retirement	0.14	-0.05 - 0.33
5. partial voluntary retirement,	0.03	-0.18 - 0.25
6. part time work to mid time involuntary retirement	0.00	-0.2 - 0.2
7. early involuntary retirement	0.01	-0.23 - 0.24
8. self-employment to late retirement	0.01	-0.22 - 0.24
Marital status + working status (ref: married w/ working spouse)		
Not married	0.04	-0.70 - 0.78

Table 4.9 (cont.) Supplemental regression analysis result with subjective well-being for men sample (ref: 1. full-time work to late voluntary retirement)

Married with not working spouse	0.01	-0.12 - 0.15
Education (ref: below high school)		
Highschool	-0.11	-0.29 - 0.08
Above high school	-0.12	-0.3 - 0.06
Race (ref: non-white)		
White	0.06	-0.08 - 0.2
Age group (ref: 63-68 years old)		
69-74 years old	0.00	-0.11 - 0.12
Poverty (ref: non-poor)		
Poor	-0.11	-0.26 - 0.03
Near poor	-0.10	-0.27 - 0.07
Marital Status + spouse ADL (ref: not married)		
Married spouse without ADL	0.19	-0.55 - 0.92
Married spouse with ADL	0.10	-0.67 - 0.87
Major job skill level (ref: low skill job)		
Middle level skill job	0.07	-0.1 - 0.23
High level skill job	0.03	-0.11 - 0.17
Self-rated health	0.24***	0.18 - 0.29
Number of children	0.00	-0.02 - 0.03
Life satisfaction at baseline	-0.02	-0.08 - 0.04
Constant	3.38	

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

However, the results for the women in the sample differed from those for the men, as shown in Table 4.10. For the women, six groups (i.e., *full-time work to gradual voluntary retirement, self-employment to retirement, early voluntary retirement, full-time work to mid-time voluntary retirement, full-time work to late voluntary retirement, and gradual involuntary retirement*) were associated with a higher level of subjective sell-being compared to the *part-time work to involuntary retirement*. In addition, having a high school diploma or more and good self-rated health were associated with a higher level of well-being, whereas having depressive symptoms in 2004 was associated with a lower level.

Table 4.10 Regression analysis result of subjective well-being for women sample (ref: 8. part-time work to involuntary retirement)

	Coefficient	95% Cl
Retirement transition sequences (ref: 8. part-time work to involuntary retirement)		
1.part time to late voluntary retirement	0.18	-0.07 - 0.43
2. full time work to gradual voluntary retirement	0.30**	0.07 - 0.53
3. self-employment to retirement	0.27*	0.03 - 0.52
4. early voluntary retirement	0.39***	0.19 - 0.59
5. full time work to mid voluntary retirement	0.24**	0.06 - 0.43
6. full time work to late voluntary retirement	0.19*	0 - 0.38
7. gradual involuntary retirement	0.18*	0 - 0.36
Marital status + working status (ref: married with working spouse)		
Not married	-0.07	-0.58 - 0.43
Married with not working spouse	0.03	-0.11 - 0.18
Education (ref: below high school)		
Highschool	-0.18*	-0.35 - -0.01
Above high school	-0.25**	-0.42 - -0.07
Race (ref: non-white)		
White	-0.07	-0.19 - 0.06
Age group (ref: 63-68 years old)	-0.05	-0.16 - 0.05
69-74 years old		
Poverty (ref: non-poor)		
Poor	-0.14	-0.34 - 0.07
Near poor	0.11	-0.15 - 0.37
Marital Status + spouse ADL (ref: not married)		
Married spouse without ADL	0.14	-0.35 - 0.63
Married spouse with ADL	-0.04	-0.56 - 0.48
Major job skill level (ref: low skill job)		
Middle level skill job	-0.04	-0.2 - 0.11
High level skill job	-0.02	-0.19 - 0.14
Self-rated health	0.27***	0.22 - 0.32
Number of children	0.00	-0.03 - 0.02
Life satisfaction in 2004	-0.03	-0.08 - 0.02
Constant	3.39	

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

As the supplemental analysis for women in the sample revealed, being in the *part-time work to involuntary retirement group* was associated with a lower level of subjective well-being compared to the *full-time work to mid-time voluntary retirement group* (see Table 4.11). In addition, having a high school diploma or more and good self-rated health were associated with a

high level of well-being, whereas having depressive symptoms in the 2004 was associated with a low level of subjective well-being.

Table 4.11 Supplemental regression analysis result with subjective well-being for women sample (ref: 5. full-time work to mid voluntary retirement)

	Coefficient	95% Cl
Retirement transition sequences (ref: 5. full-time work to mid-voluntary retirement)		
1.part time to late voluntary retirement	-0.06	-0.29 - 0.17
2. full time work to gradual voluntary retirement	0.05	-0.14 - 0.25
3. self-employment to retirement	0.01	-0.21 - 0.23
4. early voluntary retirement	0.13	-0.03 - 0.3
6. full time work to late voluntary retirement	-0.06	-0.22 - 0.1
7. gradual involuntary retirement	-0.05	-0.2 - 0.1
8. part-time work to involuntary retirement	-0.23*	-0.41 - -0.04
Marital status + working status (ref: married with working spouse)		
Not married	-0.04	-0.54 - 0.46
Married with not working spouse	0.05	-0.09 - 0.19
Education (ref: below high school)		
Highschool	-0.19*	-0.35 - -0.02
Above high school	-0.27***	-0.44 - -0.1
Race (ref: non-white)		
White	-0.08	-0.2-0.05
Age group (ref: 63-68 years old)		
69-74 years old	-0.05	-0.15-0.05
Poverty (ref: non-poor)		
Poor	-0.14*	-0.27--0.02
Near poor	-0.15*	-0.29--0.01
Marital Status + spouse ADL (ref: not married)		
Married spouse without ADL	0.13	-0.36-0.61
Married spouse with ADL	-0.04	-0.55-0.47
Major job skill level (ref: low skill job)		
Middle level skill job	-0.06	-0.21-0.1
High-level skill job	-0.04	-0.21-0.13
Self-rated health	0.26***	0.21-0.31
Number of children	0.00	-0.03-0.03
Life satisfaction at baseline	-0.02	-0.08 - -0.02
Constant	3.68	

*** p ≤0.001; ** p ≤0.01; * p ≤ 0.05; + p≤0.1

CHAPTER 5: DISCUSSION

Summary of Major Findings

This dissertation used a life course method to examine retirement trajectory sequences with a focus on broad, long-term patterns of men and women and an investigation of their associations with well-being outcomes. Although well-being following retirement has been extensively studied, a clear understanding of how well individuals adapt to this new life stage remains underexplored (Kim & Moen, 2002). Since the retirement process is intertwined with and closely connected to social contexts and individuals' life backgrounds, well-being after retirement could consider different pathways, including the realms of social and psychological contexts, to develop a better picture of the phenomenon (Pinquart & Schindler, 2007). The results contribute to expanding the literature by using life-history data from HRS with detailed information on retirement transition sequences for men and women in the US.

As a first aim, I summarized retirement transition sequences based on sequence analysis and, second, the association between the types of histories and sociodemographic characteristics. Third, I investigated associations between the types of histories and individuals' well-being. These three aims address important principles of life course research by adopting a more holistic perspective that describes entire employment histories of retirement transition sequences and, by considering conditions of previous employment histories of the life course, explaining the retirement transition.

Retirement transition sequences

Using the sequence analysis approach, the results of the approach used herein identify the primary patterns of retirement transition sequences in the US. In addition, Dynamic Hamming analysis enabled the mapping of retirement transition biographies in relation to potential typologies indicative of patterns of later-life employment and retirement. The results pointed to the heterogeneity of retirement transition by gender. I identified eight different types of retirement transition sequences based on previous work history (full-time, part-time, unemployed, self-employed) and retirement characteristics by gender. The majority of sequences were dominated by *full-time work to mid-time voluntary retirement* (18.81%) among men, followed by *full-time work to early voluntary retirement* (17.7%). Involuntary retirement transitions were divided into three groups: *full-time work to late involuntary retirement* (8.44%)*, part-time work to mid-time involuntary retirement* (13.28%)*,* and *early involuntary retirement* (7.88%)*.* Although these represented smaller proportions, the results highlight the heterogeneity of retirement transition sequences. In contrast, the most dominant group was *gradual involuntary retirement (*20.54%), followed by *full-time work to mid-time voluntary retirement* (19.68%) for women.

These results are consistent with previous findings. According to the literature, older women are more likely to dominate in paths indicated by a lower attachment to the labor market (e.g., part-time, early withdrawal, and non-employment), whereas men continue to work full-time in higher numbers (Wahrendorf et al., 2018; Worts et al., 2016). For example, Tang and Burr (2015) conducted research using HRS data to identify the prevalence of work-retirement statuses from 1998 to 2004. They found that more men were associated with full-time work status, while more women were characterized by a part-time employment or unemployed status. The results of this dissertation provide evidence of the effectiveness of sequence analysis in

describing trajectories of both men and women and can be used to analyze the long-term effect of a precarious work history on retirement transitions.

People today are more likely to exit the labor force along various pathways, including leaving the workforce due to disability, caregiving responsibilities, or unemployment in their 50s and early 60s; a few even consider themselves "retired" in their 50s (Moen et al., 2021). According to a study by the Transamerica Center for Retirement, two-thirds of workers in the baby boom generation (66%) expected to or were currently working past the age of 65 (Collinson et al., 2019). However, older adults experience informal and formal expectations pushing them out of the workforce, even though in the study, almost half (47%) envisioned a phased retirement and one in five (20%) wanted to continue working as long as possible. Potential contributions to forced-retirement transitions include age discrimination and the inability to find work congruent with workers' caregiving responsibilities, health conditions, or other needs (Collinson et al., 2019). In particular, research has found that 60% of caregivers were employed while simultaneously providing care, and 61% of these indicated at least one job impact as a result of caregiving (e.g., disruptions to a work schedule, losing one's job entirely, having to use sick days to provide care; Moen, 2020).

Characteristics of each retirement transition sequence

Those who belonged to group *full-time work to mid-time voluntary retirement* represented about 20% of the men sample and were the most advantaged, including men who were White, college-educated, and in good health with above-average household wealth and income. However, the men in the *part-time work to mid-time involuntary retirement* group were more likely to be disadvantaged. More specifically, they were considerably more likely to be of

minority status, not married, and—perhaps not surprisingly—to have the lowest median household income and wealth. For women, those in the group with *full-time work to gradual voluntary retirement* were more likely to be highly educated, to have larger household incomes, and to be in good health. Similar to the male sample, women in the *part-time work to involuntary retirement* group were considerably more likely to be disadvantaged, to be part of a racial minority group, to have lower household wealth, and to be unmarried.

In summary, those who experienced involuntary retirement had a precarious work history that included part-time work and frequent job changes for both men and women. In addition, those in the involuntary full-retirement transition sequence were found to be the least socioeconomically advantaged and to suffer from poorer mental health than those who followed other trajectories. The findings support the hypothesis that the impact of retirement on well-being is influenced by the circumstances surrounding the retirement transition (Szinovacz & Davey, 2004). In general, minority workers have more discontinuous work histories and poorer health, putting them at increased risk for involuntary retirement. This is consistent with existing literature showing that Hispanic older adults, especially, experience high rates of poverty and are more vulnerable than their Black counterparts with respect to employment-history characteristics (Quinn & Kozy, 1996).

According to research, about one-third of retirees consider their retirement transition to be involuntary (Szinovacz & Davey, 2004b), citing employer-related factors such as company closure or layoffs, in addition to personal problems such as poor health or disability (Helm et al., 2012). Involuntary retirement can create a number of challenges for older persons in terms of maintaining financial stability and overall well-being. Loss of income and delayed access to pension combined with difficulties related to psychosocial adjustment increase the likelihood of

negative economic and health outcomes. Due to older adults' difficulty reentering the workforce, which is accompanied by significant wage losses (Johnson & Butrica, 2008), identifying the group that experienced the involuntary retirement transition followed by a precarious work history is a crucial finding for better understanding the disparity among marginalized groups in society in regard to this transition. Since relatively little research has focused on the voluntariness of retirement or its varied contexts (Rhee et al., 2016), this dissertation's findings provide empirical evidence of the formation of involuntary retirement transitions in the extended life frame, including previous work-life history before retirement. People who experienced precarious employment statuses for most of their working lives were included predominantly in the group that experienced forced retirement from their career employment. This points to a cumulative disadvantage in labor-force participation and exit behavior later in life (Ekerdt, 2010; O'Rand, 1996).

Association between retirement transition sequences and well-being

The findings are suggestive of benefits to well-being related to voluntary retirement transitions but in ways that are gendered. Downshifting from full-time work to voluntary full retirement was clearly associated with the greatest levels of well-being for both men and women, while involuntary retirement and an involuntary retirement transition were negatively associated with reduced levels of well-being, especially for women.

Those included in the involuntary retirement groups were found to experience higher levels of depressive symptoms and lower levels of well-being compared to those who were in other retirement transition groups, especially voluntary retirement transition. I argue that the circumstances of one's retirement transition are important for well-being based on the life course perspective (Elder, 1994; Moen, 1996). Life experiences are linked over time and across life

domains according to the life course perspective. As a result, previous experiences influence current actions as well as how they are perceived, and experiences in one domain (e.g., work/retirement) are associated with experiences in other life domains (e.g., family responsibilities). Caregiving obligations, for example, have been demonstrated by research to have an impact on retirement transition decisions (Szinovacz & Deviney, 2000). This implies that the contexts surrounding retirement (such as family-care obligations) will play a role in determining how retirement affects well-being (Szinovacz & Davey, 2004).

These results were consistent with previous literature. For example, Taylor-Carter et al. (1997) found that formal and informal preparations for retirement enhanced older adults' confidence in their ability to make the transition to retirement. Formal retirement planning is especially beneficial because it improves people's financial and activity planning for retirement through formal planning seminars, whereas informal planning establishes psychological expectations about retirement. In general, retirees who involuntarily leave their jobs may be stigmatized and, as a result, may experience a lower level of well-being (Karren & Sherman, 2012). While researchers found that "bridge" employment is beneficial to late-life well-being (Zhan et al., 2009), involuntary career exits are found to be deleterious to late-life well-being (Hershey & Henkens, 2014).

Furthermore, although there were similar associations between retirement transition sequences and depression, the results for subjective well-being were significantly different. The sample for women has strong associations with the retirement transition sequences and well-being outcomes, while there were no significant associations among the men's sample. When we consider the fact that many caregivers indicated at least one job impact as a result of caregiving (Moen, 2020), these results imply gender disparities in the relationship between retirement

transition and well-being. Involuntary retirement transition, in particular, was the most dominant transition profile in the women's sample that might be associated with caregiving duties for family members.

One of the foundational assumptions of the life course perspective is the acknowledgment of diversity in life experiences among diverse populations (Calasanti, 1996). I focus on gender differences because previous research implies that men and women have different experiences regarding retirement and caregiving. Caregiving, especially, has been shown to be a major stressor for women in contrast to men (Yee & Schulz, 2000). This implies the importance of gender roles for understanding the association between retirement and well-being based on the individual's surrounding circumstances. Because of their socialization experiences as nurturers, women feel more obligated than men to retire if their spouses become ill and require caregiving; hence, they experience less control over the retirement transition (Szinovacz & Davey, 2004a). This result is consistent with the fact that men rarely leave the labor force for caregiving reasons, while women are more likely to regard their retirement as forced if their spouses become ill or disabled (Szinovacz & Davey, 2005). To be specific, men tend to perceive spousal caregiving as an extension of their wives' marital duties, and they tend to provide less hands-on care than women do. By contrast, women tend to see caregiving as a necessary function within the context of kinship care and spend more time providing hands-on caregiving (Miller & Guo, 2000).

Long-term caregiving experiences that are perceived as obligatory have been associated with increased stress levels (Chappell & Colin Reid, 2002). Furthermore, women experience more psychological and emotional reactivity to caregiving experiences in general compared to men, as well as more negative feelings toward the disabled spouse and the changed marital reality (Atienza et al., 2001). These results highlight the importance of research on gender

differences related to the retirement transition and well-being and contributors to negative and forced transitions, especially for older adult women.

Contributions of the Findings

The contributions of these results can be summarized in four parts. First, to the best of my knowledge, bringing labor force participation and exit behavior has not been reported simultaneously due to the complexity of labor-market involvement. This approach allowed me to investigate more aspects of retirement than were examined in previous research. In the dissertation, more-precise retirement transition sequences were presented using sequence analysis, which is one of social science's advanced analytic methodologies. I was able to identify various pathways of retirement transition sequences based on stability and change by examining the complexity of labor-market activity and exit behavior using biographical sequences within the extended time frame. Notably, I was able to take into consideration not only the timing of retirement but also its occurrence in relation to previous full-time or part-time employment histories. By identifying the connection between precarious labor-force participation history and involuntary retirement transition, in particular, these results provide a meaningful contribution. Although the study design does not provide a causal interpretation, the findings imply that the most-advantageous retirement transition sequence for later mental health and well-being is a trajectory of downshifting from full-time employment to voluntary retirement.

Second, this study's findings show that continuing to work in later life may be positively associated with mental health, thereby supporting a need for flexible employment policies that foster opportunities for part-time work and a voluntary retirement transition. My results were dependent on the consideration of willing retirement connected to an individual's previous work

history and the exploration of the association with mental health and subjective well-being, suggesting that future studies should pursue investigations of possible mechanisms and gender differences in regard to this association.

Third, the results allowed me to include persons without solid employment histories—mostly women—who are typically excluded from retirement research. No existing studies looked at gender differences in retirement transitions. The results provide empirical evidence for retirement transitions and their impacts on mental health and psychological well-being, which can be used for gender-focused policy and service development in the future.

Fourth, the results provide in-depth information about new types of retirement transitions, including gradual and partial retirement. De Vaus and colleagues (2007) discovered that gradual retirees had better physical health than those who retired suddenly. However, they did not include individuals who continued to work in their research. One study that looked at this population found that leaving the workforce progressively had no health benefits over continuing to work full-time, while another found that retirement of any kind, whether full or gradual, was worse for health than not retiring at all (Zahn et al., 2009). The results of this dissertation contribute to expanding the existing literature on bridge employment and partial retirement by considering individual trajectories of new types of retirement and associated sociodemographic characteristics.

Limitations and Suggestions for Future Studies

Limitations

These contributions should be viewed in light of several limitations. First and foremost is the need to compromise some degree of precision in the development of later-life labor-market

groups. I grouped people with similar but not identical trajectories. However, this limitation is inextricably linked to the study's two main strengths: the ability to address life course considerations by examining long-term trajectories rather than short-term labor-market states and the ability to include a sample of women, regardless of prior work status, thereby more fully assessing gender differences in the links between later-life retirement transition sequences and mental health outcomes. A second limitation is that imputations introduced some uncertainty into the retirement transition sequences. While this is concerning, I was able to reduce the impact by performing 40 imputations. Furthermore, over 70% of sequences were full, and the sensitivity analysis utilizing a sample without any missing labor-market data did not change the main findings. A third consideration is that more-detailed indicators such as working hours, occupational situation, or a subjective indicator of work investment were not used. In future research, family structure (partner working, couples), couple formation, and the birth of the first child could be considered. Employment sequences and timing of births, especially, seem to be endogenous to women's career preferences. Some couples prioritize their careers at certain points in their life course by postponing having children or spacing births (Pailhé, 2013). Considering these factors did not entirely account for their well-being in this dissertation, it is possible that other dimensions of social advantage not included in the model are essential for understanding the association and should be investigated further in future research. The lack of studies emphasizes the need for future research to take into consideration the entire complexity of later-life retirement paths based on gender. This might also include a more-detailed analysis of the timing for downshifting (i.e., the age at when it happened) than the survey years in the current analysis.

Suggestions for future studies

In the future, research using a more comprehensive model should be considered to understand the retirement transition and various outcomes, including working duration, support from the workplace, retirement planning activities, and family structure. This is a particularly worthwhile research path when we consider that the possible reasons for involuntary retirement are varied and include being pushed out (Ebbinghaus, & Radl, 2015), health problems (Martin et al., 2010), and family caregiving responsibilities (van der Horst et al., 2017). Therefore, additional research should be conducted with detailed work-related variables and diverse life domain variables. Research using multichannel sequence analysis could be considered to provide a deeper understanding of the retirement transition among older workers.

International comparison research could also be considered in the future. According to Hershey et al. (2007), Dutch workers were less engaged in retirement planning activities and had lower goal clarity scores than US workers. This is not surprising considering that the vast majority of older Dutch workers are covered by guaranteed benefit pension plans, whereas most US organizations increasingly emphasize the importance of examining potential cross-cultural disparities in retirement and outcomes. In addition, Cho et al. (2016) found that 11% to 19% of retirees in Germany, the US, and South Korea who worked after retirement moved in and out of the labor force on a regular basis. Therefore, future international comparative research on retirement transition sequences within organizational and occupational boundaries should be considered.

In addition, research to investigate the mechanisms of retirement transitions and mental health and well-being should be investigated to provide an in-depth understanding of gender differences on the association between retirement transition sequences and mental health and

well-being outcomes in later life. Disregarding pathways and their possible mediating variables—such as social context (e.g., social engagement, social support) and personal context (self-control, self-efficacy)—limits the understanding of well-being in retirees and leaves the question of causality related to well-being after retirement unexamined. More research is needed to explore pathways, including how social and psychological factors in early and middle age affect well-being after retirement in later life.

Lastly, due to massive layoffs of workers of all ages in response to COVID-19, many workforce exits in later adult life were not voluntary, especially for older workers (Moen, 2020). In addition, numerous older workers in their early 60s experience job lock, remaining in the labor force, albeit unwillingly, because of economic or health insurance needs, given their ineligibility for public support (Fisher et al., 2016). In the future, research on the impact of COVID-19 on labor force participation and its consequences on physical and mental health could be considered to develop suggestions for future practice and policy support.

Implications

Implications for Retirement Policy and Research

In spite of these limitations, the findings have significant implications for retirement policy and research. First, policymakers and social workers must acknowledge that retirement has evolved to become a nonlinear, heterogeneous life transition that requires policies and programmatic interventions to address and manage its current complexities (Rhee et al., 2016). As a result, improving understanding of retirement transition sequences associated with poor mental health and subjective well-being is crucial because it may give social workers additional insights into where, when, and how to intervene.

Second, policies to reduce age discrimination can be considered in the future. Despite the existence of the federal legal protections in the Age Discrimination in Employment Act, expanding the Equal Employment Opportunity Commission with more resources and supervisory authorities is needed in the future (Roscigno, 2010). Since COVID-19 could exacerbate biases in hiring and layoffs among older adults as they are generally considered more vulnerable to contracting the virus and at higher risk of dying from it (Moen, 2020), protections and programs to reduce age stratification and discrimination should be strengthened in the future. For example, it is possible to extend unemployment insurance to the self-employed with required training and supports for re-employment (Wandner et al., 2018).

Third, federal safety nets and labor regulations should be updated to address the new intensity and precarity of work, as well as growing inequalities for workers of all ages, by enacting policies that better cushion the shock of layoffs or unexpected retirement by providing greater economic security, perhaps through public service or some form of income floor. In the US, there are few safety nets. For example, Social Security offers only minimal assistance, but five of ten pensioners rely on it for 90% or more of their income. Ramping up and funding stipend opportunities for public services, such as a new infrastructure akin to the Peace Corps, AmeriCorps, and Senior Corps, could be a promising solution (Moen, 2020).

Fourth, innovative ways to manage and tap into skilled older workers can be considered via inventive third parties. These new organizational models have the potential to develop new work trends. For example, the University of Minnesota Advanced Careers Initiative (UMAC) started innovative lifelong education where UMAC fellows have the opportunity to reimagine their identities and options for later adulthood. Universities can serve as catalysts for bringing baby boomers back to campus to deliberate on how they might best use their time and skills for

the greater good under such a model. Similar programs are provided at Stanford University, Harvard University, and the University of Notre Dame (Moen, 2020).

Lastly, given the projected labor shortages resulting from the pending retirement of baby boomers (Wang et al., 2008), it may be of great benefit for both governmental and corporate policymakers to act to reduce barriers and encourage work at older ages. Governments can facilitate partnership-building among public universities, organizations, and older-worker advocacy groups to provide skill enhancement training for this cohort. For example, bridge employment, which allows older workers to keep one foot in the workforce and one in retirement, has examined how it can soften the transition from work to retirement and, thereby, increase well-being (Gobeski & Beehr, 2009; S. Kim & Feldman, 2000; Wang et al., 2008).

In addition, blended work can offer a solution in terms of predicted labor shortages of highly skilled, professoinal workers in industrialized countries. Many managers consider older workers to be technologically vulnerable compared to younger workers (Malinen, 2009). However, research supports the fact that 80-year-olds are as capable of navigating and mastering internet-related tasks as younger age cohorts, although additional training is frequently necessary (Sharit et al., 2004). Blended work is defined as work that can be done from several locations, including from the home, worksites, and other remote and satellite offices. It incorporates communication and information technology (van Yperen et al., 2014). Blended employment may be a suitable option for retirement because of its potential for reduced work activity, travel, and physical workplace restrictions. The change to home-based communication and information technologies to take the place of physically demanding work tasks may assist older workers in remaining employed. In addition, older workers' established work patterns and routines based on their extensive employment history and self-reliance may work to their advantage (Patrickson,

2002). Older people may regard blended work as more "personally effective" than younger workers, according to van Yperen and colleagues (2014), since they have less need for order and belonging and weaker demand for work–home separation.

Implications for Social Work Practice

First, strategies for helping retirees develop better coping strategies will be beneficial for overcoming expected or unexpected obstacles and barriers during the retirement transition. For retirees, building realistic expectations about the obstacles and barriers they may face in their retirement transition and adjustment can help them prepare for that transition. Tailored intervention programs can be provided to improve retiree well-being. Since the retirement process is intertwined with diverse life components (including personal, family, and societal contexts), practices should consider a personalized focus on each situation. For example, for retirees who suffer from an unhappy marriage but not declining health, the practitioner may recommend marriage counseling rather than health-promotion workshops for improving well-being after retirement.

Second, more-comprehensive social work programs for involuntary retirees are needed since this group is more likely to face various challenges related to mental health, a lack of financial and human capital resources, and unemployment. Local communities should provide social assistance and services to meet the requirements of involuntary retirees (Rhee et al., 2016). Practical programs that promote older adults' physical and mental health, financial-management skills, job-seeking strategies, and work skills, for example, will assist involuntary retirees in managing their health and regaining or maintaining employment despite their limited resources, thereby improving their financial stability. Creating a safety net for involuntary retirees who are

typically ineligible for government and corporate benefit programs due to their early retirement should also be considered (Rhee et al., 2016).

Lastly, social workers and mental health counselors could validate older people's experiences and offer psychoeducation to help them identify protective factors (e.g., meditation, spirituality, religion, exercise), and use other strategies to increase personal resilience (Li et al., 2019; Gonzales et al., 2019). In the workplace and community, social workers' clinical knowledge could support efforts to help older workers deal with age discrimination and depression, enhancing mental health and extending working lives. A society that is harmonious, healthy, and productive will be promoted by multifaceted interventions aimed at individuals, groups, and at the federal level (Gonzales et al., 2021).

Conclusion

As the population ages, there is a growing interest in learning more about the factors that influence labor-market participation after the age of 50. In the case where increasing numbers of older workers continue to work beyond retirement age due to the increase in life expectancy, being forced out of the labor market can lead to various life challenges. I found that those who were disadvantaged in the process of career withdrawal continue to be disadvantaged and require particular attention in light of policy interventions encouraging older workers to extend their working lives, either in career positions or in bridge jobs. This process of cumulative disadvantage in the retirement transition sequences highlights the importance of particular attention in light of policy interventions encouraging older workers to extend their work careers and make a choice in the retirement transition. Policymakers and practitioners should realize that, while older workers are willing to be employed longer, some groups do not have a choice (Dingemans et al., 2016).

To prevent the negative consequences related to involuntary retirement transition, multidimensional collaboration with policymakers, social work practitioners, researchers, and employers is essential. The findings support the following broad conclusions: Involuntary retirement transition followed by a precarious work history is more common among older women in the US; well-being in later life varies depending on retirement transition history, including voluntariness and work history. Further research on retirement is needed to narrow the current literature gaps (e.g., race and ethnicity, gender, international comparison). While future research could extend the current literature on retirement and well-being by identifying different pathways according to race and ethnicity and gender, it could also contribute to the development of a theoretical framework for current retirement populations (e.g., the baby boomer generation) as well as practical programs to reduce the negative impacts of retirement on well-being. Such research might also contribute ultimately to decreased social inequities and the promotion of successful aging in older adults.

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