

INCREASING LONGEVITY IN THE WORKPLACE:
EXPLORING THE MOTIVATIONS OF OLDER ADULTS TO
EXTEND THEIR WORKING LIVES

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To my grandmothers, Siong Ngo and Siok Bee, in memoriam.

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ABSTRACT

INCREASING LONGEVITY IN THE WORKPLACE:

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The longer life expectancy combined with decreasing birth rates in many developed countries has led to a growing awareness of the need for older adults to extend their working lives. As more people reach their 80s and 90s, working into their late 60s and 70s will become more common for social, mental engagement, and economic reasons. However, opportunities and conditions for older adults to continue working today are fraught with challenges across individual, organizational, and societal levels. This study aims to contribute to the current body of knowledge on longevity in the workplace by bringing forward the voices of older workers in their 60s and beyond and exploring the complex factors that influence their motivation to continue to work through a systems perspective. Using a mixed-methods research approach grounded in self-determination theory (SDT), this study reveals a multilevel set of factors that influence the work motivation of older adults. The findings demonstrate that beyond older workers' fundamental need for financial security, physical stamina, and mental cognition, they also have four key psychological needs: purpose, autonomy, competence, and relatedness. Older adults with high intrinsic motivation are found to be more likely to work longer than those with extrinsic or introjected motivations. Furthermore, the mindset of older workers, shaped by both their growing awareness of the finite nature of time and their internalized beliefs and values over decades of lived experiences, influences their motivation to work. Factors in their everyday

circle and societal conditions such as their home situation, workplace environment, and government-sponsored retirement benefit programs also affect the satisfaction or frustration of their psychological needs and, consequently, their motivation to continue to work beyond the traditional retirement age.

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CHAPTER 1: INTRODUCTION

Grow old along with me! The best is yet to be,

The last of life, for which the first was made.

—Robert Browning

The increased life expectancy of people combined with decreasing birth rates in developed countries has led to a growing awareness of the need for older adults to have income for more years of life (Axelrad et al., 2020; Sewdas et al., 2017; Toossi & Torpey, 2017; Vogel et al., 2017). As more people live well into their 80s and 90s (Medina et al., 2020), working longer will become more common for social, mental engagement, and economic reasons (Axelrad et al., 2020; Bronshtein et al., 2019; Jimenez, 2020).

However, opportunities and conditions for older adults to continue to work today are rife with challenges across individual, organizational levels, and societal levels (Marcus, 2020). The older worker's decision to continue to work and their ability to thrive in the workplace are influenced by their personal motivations to work while retirement beckons (Cunningham et al., 2015; Kooij et al., 2008; Loi & Shultz, 2007), along with the work they are expected to perform and the organization they are in. Yet, many organizations lack an understanding of today's older workers and are ill-prepared to attract and retain older workers due to ageist attitudes, non-inclusive HR policies, and a lack of development opportunities and understanding of older workers' needs, among other reasons (Burke et al., 2015; Walker & Zelin, 2020). It is thereby a challenge for many older workers to continue to work despite their ability and desire to do so.

This study seeks to discern, among other key considerations, the motivations and characteristics of older workers who have continued to work beyond their early 60s. This introductory chapter articulates the current trends of population aging and the context in which

older adults may choose to delay retirement and extend their working lives. Chapter 2 follows with a review of current literature and an outline of a conceptual framework of adult development and aging, intrinsic and extrinsic motivation, and organizational practices as it exists today as well as the gaps in literature and practice that this study seeks to address.

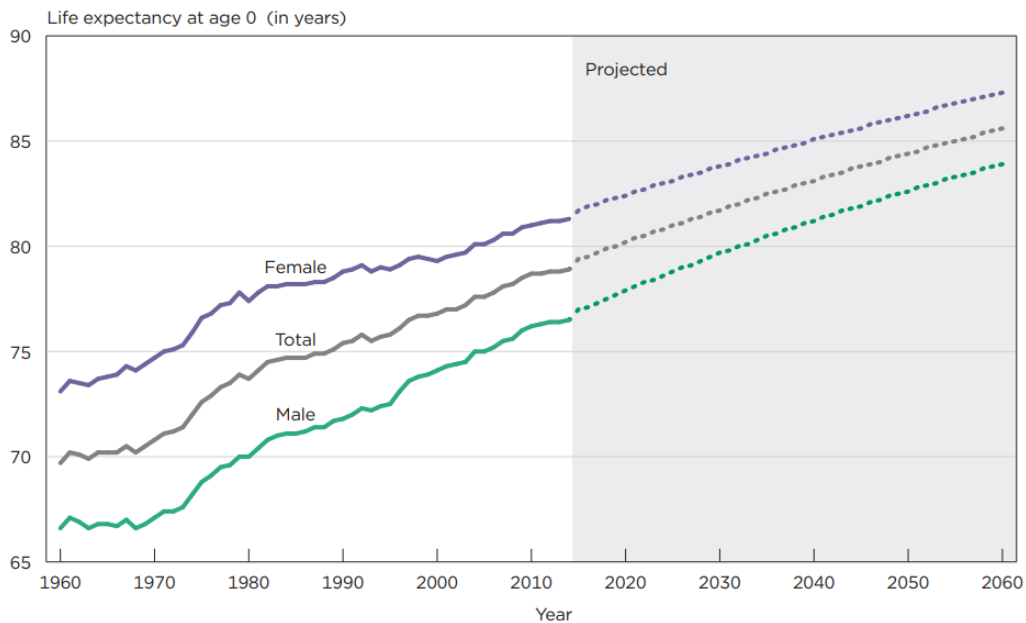
Background/Context

People today live and stay healthier longer than previous generations (Guillén, 2021). The average life expectancy of humans has steadily increased in the past century due to medical and technological advances and is expected to improve from 47 years in 1900 to 85.6 years by 2060, as shown in Figure 1 (Medina et al., 2020). To keep pace, many government-sponsored retirement benefit programs have also increased the eligibility age to receive full benefits (OECD, 2016; Social Security Administration, n.d.). As a result, more older adults are contending with delaying their retirement plans and spending more years in the paid labor force. As lifespans increase, people will also need or want to work longer (Axelrad et al., 2020; Jimenez, 2020; Newton & Ottley, 2020; Sewdas et al., 2017; Templer et al., 2010).

While the average life expectancy has increased, birth rates have declined in many developed countries (He et al., 2016). U.S. Census data initially predicted that by 2034, adults aged 65 and above would outnumber children under 18 for the first time in U.S. history (Vespa, 2018), thereby increasing the median age in the population. Thus, population aging is expected to continue in the United States and many other developed countries in the coming decades (Gerontological Society of America, 2018).

Figure 1

Historical and Projected Life Expectancy for the Total U.S. Population at Birth: 1960-2060



Note: From “Living Longer: Historical and Projected Life Expectancy in the United States, 1960 to 2060” by L. Medina, S. Sabo, and J. Vespa, 2020, *Current Population Reports, P25-1145*, p. 3. (<https://www.test.census.gov/content/dam/Census/library/publications/2020/demo/p25-1145.pdf>). In the public domain.

Economic Impact of Population Aging

Population aging has significant implications on economies and societies. Scholars have projected that aging populations will lead to the slowing or even the reversal of labor force growth and may result in labor shortages and lower economic growth (Bloom et al., 2011; Hsu, 2017; Lai & Yip, 2021; Lisenkova et al., 2013; Maestas et al., 2016). Although the severity of the long-term impact of aging populations on economic health has been debated among scholars, there is a predominant view that aging populations lead to a tighter pool of available labor talent in the 20-to-64 age group and to “low (or negative) rates of labor force growth,” as well as

causing governments to “shift away from investment to consumption since government expenditure tends to increase to meet the increased demand for pensions and other old age-related benefits (such as health care)” (Lisenkova et al., 2013, p. 981).

Roughly 10,000 Baby Boomers born between 1946 to 1964 are retiring each day (U.S. Equal Employment Opportunity Commission (EEOC), 2018). As the number of retirees increases, existing social infrastructures such as the funding of Social Security and other social programs, public policy and public social services such as health care, and economic conditions such as spending and labor productivity are bound to be affected (Bloom et al., 2011; Burke et al., 2015; Gerontological Society of America, 2018; He et al., 2016). In addition to increasing demand for older-age programs such as Social Security and Medicare, individuals also tend to change their lifetime consumption behaviors and exhibit more savings behaviors when faced with the possibility of living longer while retired, thus further affecting the economy through reduced expenditure (Yakita, 2001). Furthermore, labor shortages are expected to worsen as the working-age population shrinks in the United States and other developed countries as declining birth rates lead to fewer younger talents entering the workforce (Greszler, 2022).

However, the continued participation of older workers in the labor force can mitigate the negative economic consequences of aging societies (Bloom et al., 2011; Lai & Yip, 2021; Vogel et al., 2017). Older workers contribute to the per capita output of the economy and stimulate greater human capital accumulation while reducing the proportion of dependents in society and the need for government-sponsored social programs (Vogel et al., 2017). Older workers contribute to the available labor pool, thereby mitigating labor shortages (Lai & Yip, 2021), and they bring their decades of work and life experience, skills and knowledge, and social relationships to their organizations, which also benefit the organizations they work in (Leana &

van Buren, 1999). Thus, an increasing number of governments are recognizing the need to support older workers to sustain economic development as population aging unfolds (Lai & Yip, 2021; Vogel et al., 2017).

The U.S. Bureau of Labor Statistics has projected that the number of workers aged 65 and above will increase by 75% in the United States by 2050, whereas workers aged 25 to 54 will only increase by two percent over the same period (Toossi & Torpey, 2017). During the decade between 2020 and 2030, the number of workers aged 75 and above is expected to increase by 96% while the labor force of workers aged 16 to 24 is projected to shrink by 7.5% over the same period (U.S. Bureau of Labor Statistics, 2021). Thus, aging populations portend an increasingly aging workforce (U.S. Equal Employment Opportunity Commission (EEOC), 2018).

Statement of the Problem

Many policymakers, researchers, and members of the general public assume that it is realistic, logical, and tenable for Americans to work longer and delay retirement as they live longer and stay healthier longer. After all, extended employment provides a source of continued income and improves the household's retirement standard of living (Bronstein et al., 2019). Working longer can also provide a sense of purpose in life, increased happiness, and a more positive perception of aging for older workers (Calvo, 2006; Jimenez, 2020; Sewdas et al., 2017). However, while there are some older workers who are successfully working into their later years, the vision of purpose-filled older workers enthusiastically working through their extended healthspans does not match the current reality (Berkman & Truesdale, 2022).

Challenges of Older Job Seekers

Older workers face challenges in seeking and maintaining suitable employment (Harris et al., 2018; Neumark et al., 2019). The U.S. Equal Employment Opportunity Commission (EEOC, 2018) reported that, despite doubling the percentage of workers aged 55 and older in the workforce from 12% to 24% from 1992 to 2017, older workers who lost their jobs found it more difficult and required more time to land new jobs than younger workers. Although there are legal protections afforded to older workers by age discrimination laws (U.S. Congress, 1986), job interviews are more likely to be offered to younger workers than to older workers who have similar qualifications in the United States (Neumark, 2018). Those who experience extended unemployment are more likely to accept jobs that pay less or require lower skill, have less stable employment in part-time, contract, or entrepreneurial roles, or completely withdraw from the labor market (Biggs, 2014; OECD, 2006; Phillipson, 2013).

Older workers, especially those employed in full-time, stable positions, face difficulties in finding or maintaining employment due to negative stereotypes and perceptions toward older people, precarious workplace conditions, and non-inclusive work-related policies and practices (Harris et al., 2018; Vanajan et al., 2019; Walker & Zelin, 2020). Some employers are reluctant to hire older workers despite age discrimination laws. It is not uncommon for older workers to be viewed as less competent with decreased capacity or motivation to learn and lower productivity, thereby bringing less value to the organization (Harris et al., 2018), despite data showing that the correlation between age and these characteristics is weak to non-existent (Cunningham et al., 2015; Marchiondo, 2015; Ng & Feldman, 2010, 2012). Unfortunately, the nature and working conditions of certain jobs can add stress and strain—whether physical or mental—that negatively

affect the older worker's well-being and accelerate burnout and departure from the workforce (Axelrad et al., 2020; Berkman & Truesdale, 2022).

Researchers have found that employment rates drop sharply between ages 50 and 60 in the United States, with only close to half of job-seeking Americans in that age group—about 61% of men and 43% of women—consistently employed during the years spanning 1992 to 2018 (Truesdale et al., 2022). Thus, staying employed throughout one's 50s is a challenge. Combined with data showing that continuous employment in their 50s is a strong predictor of employment in their 60s (Truesdale et al., 2022), the prospect of older adults working into their later years is not as straightforward as applying for a job, despite the call from many nations and public sector organizations to promote the positivity of delaying retirement as an economic necessity (OECD, 2006, 2016).

Demographic Shifts in Older Workers

The U.S. Age Discrimination in Employment Act of 1967 proclaimed workers above 40 years of age to be a protected class against age discrimination (U.S. Congress, 1986) when the life expectancy was 70.5 years on average (National Center for Health Statistics, 1969) and many organizations had mandatory retirement requirements, typically at age 65 (U.S. Congress, 1986). In 1986, the U.S. Congress abolished mandatory retirement, and more Americans had the option to work as long as they needed to for as long as they felt able to (Kesselman, 2004; U.S. Congress, 1986).

The need to support individuals beyond 60 years of age to continue working is a change from prior generations, which encouraged or mandated through policy and labor practices the retirement of individuals at a certain age because it was perceived to be a means to keep unemployment rates low and pave the way for the entry and promotion of younger workers

during that time (Eichhorst et al., 2014). With aging populations and lower birth rates resulting in fewer young workers joining the workforce in the coming decades, the demand for skilled workers will be higher than the available labor supply in the foreseeable future, unlike during the past century (De Smet et al., 2022; S. Kim, 2019). Older workers in their 60s and beyond, who might have traditionally retired in their late 50s or early 60s, could fill this labor gap and subsequently help raise the economic output of the country (Lai & Yip, 2021).

Understanding Older Workers

To support the extension of working lives, organizational practices and policy recommendations need to consider the motivations and characteristics of this new group of older workers, which may be different from the needs and motivations of workers in other stages of life or even among older workers themselves (Berkman & Truesdale, 2022; OECD, 2006). However, it is important to note that although older workers may share similar demographics around chronological age, they have vast diversity in their experiences, values, concerns, and desires in life, which leads them to experience the specific changes of aging differently (Bryson et al., 2020; Noonan, 2005; Templer et al., 2010).

Older adults are the most heterogeneous group among all age groups, and their needs and motivations are also heterogeneous (Golden, 2022). Some older adults lack adequate retirement income and need to work regardless of precarious workplace conditions, whereas others may want additional savings but can afford to choose suitable income-generating work (Templer et al., 2010). Some older adults are physically and cognitively as active as before, whereas others have health conditions that either require workplace adjustments or preclude them from working at all (Vanajan et al., 2019). Some older adults are responsible for only themselves, while others, especially older women, balance family caring responsibilities with work responsibilities and

seek employers who can accommodate these needs (Mangione et al., 2020; Piran, 2020; Radtke & van Mens-Verhulst, 2020).

Job requirements also influence the employability of individuals. Different jobs require different levels of abilities and skills, and for individuals to remain as active participants in the workforce, they must continue to adapt and meet the requirements of their jobs, whether physical or cognitive (Bucknor & Baker, 2016; Mitzner et al., 2019; Rho, 2010; Zacher & Frese, 2011). Although physical and cognitive decline is often associated with aging, associating universal and general decline with chronological age is simplistic and misleading (Desjardins & Warnke, 2012; Kanfer & Ackerman, 1989; Rönnlund et al., 2015). With workplace support, many older adults with chronic health conditions and lower mobility continue to work (Hiesinger & Tophoven, 2019; Vanajan et al., 2019). Furthermore, researchers have shown that cognitive abilities remain strong for older workers (Berger et al., 2022; Desjardins & Warnke, 2012).

Summary

As the population of the United States becomes older than ever before and more Americans need to have income for more years of life, there will be more older workers contributing to the labor force. However, the question arises of what individual motivations, workplace conditions, and societal norms are necessary for older workers to continue participating in the labor force in a manner that is beneficial not only for economies and organizations but also for the individuals themselves. While employment and labor productivity growth by workers have been shown to contribute to the economic growth of nations and organizations (Lazear, 1998), it is more complex to account for the factors that may enhance or detract the motivations of older adults to extend their working years.

Purpose and Research Questions

This study seeks to gain a deeper understanding of the motivations of older workers to continue to work. The primary research question for this study is:

Research Question: What do older workers identify as factors that influence their motivation to continue to work beyond the traditional retirement age?

Oftentimes, the motivation and decision to continue to work or conversely, to retire, is viewed as a predominantly individualized process influenced by individual situations (e.g., health conditions, family members requiring care or companionship, or individual ambitions) or by macro-level forces such as economic downturns and the availability of government-sponsored retirement benefits (National Academies of Sciences Engineering and Medicine, 2022; Robroek et al., 2013; Vanajan et al., 2019, 2020; Virtanen et al., 2014). This study seeks to bring forward the lived experiences of a cross-sectional group of older workers in America and identify the factors that predominantly influence their motivation to work.

Definition of Terms

This paper includes important terms and concepts related to the research topic. The following section endeavors to provide a clearer understanding for the readers on how these terms are defined for the purposes of this paper.

Aging

Aging is referred to as biological, psychological, cognitive, and social changes over time (Kooij et al., 2008). Many researchers consider chronological age as an important marker of certain transformations during one's lifespan, although aging is a complex and multidimensional process that requires the consideration of other conceptualizations of age beyond simply being an effect of time (Kanfer & Ackerman, 2004; Lev et al., 2018).

Aging Population

An aging population is characterized by an increase in the median age of a group through a combination of lower birth rates and increased life expectancies, which is a phenomenon many developed countries including the United States are currently facing (Vespa, 2018).

Ageism

The term ageism, coined by Robert Butler in 1969, has been broadly defined as the “systematic stereotyping and discrimination against people because they are old” (Butler, 2008, p. 25). However, ageism can pertain not only to negative beliefs, attitudes, assumptions, and stereotypes toward individuals because of their age, whether young or old, but can also pertain to both positive and negative stereotypes due to perceived chronological age (Lev et al., 2018).

Retirement Age

Retirement age commonly refers to the age at which a person formally stops seeking employment and withdraws from the workforce (Pilipiec et al., 2020). Although the formal definition of retirement age refers to the age in which an individual must permanently withdraw from the labor market as set by laws and policies (Wang & Shi, 2014), in many countries including the United States, there is no nationwide legal retirement age (U.S. Congress, 1986). Therefore, this paper uses the first definition provided.

Pension Age

Pension age is the legal age at which a person is eligible for age-related benefits (Pilipiec et al., 2020). In the United States, eligibility for government-supported health insurance benefits under Medicare begins at age 65 (U.S. Centers for Medicare and Medicaid Services, n.d.). Meanwhile, Social Security benefits can be partially claimed from age 62, although those who

delay claiming the benefits until the full eligibility age, ranging from 65 to 70 depending on the year of birth, can receive increased benefit amounts (Social Security Administration, n.d.).

Traditional Retirement Age

The term traditional retirement age refers to the age at which an individual is expected to retire based on their cultural norms. Retirement and pension age are often connected, such that many Americans view eligibility for pension benefits such as Social Security at age 62 and Medicare at age 65 as a signal leading towards an expectation to retire from the labor market (Pilipiec et al., 2020).

Older Worker

The term older worker is an often-used term in academic research to study adults above a certain chronological age who actively participate in the labor market (Caines et al., 2020; Kooij et al., 2008; McCarthy et al., 2014). Reflecting the subjective nature of the term *older*, no chronological age has been set and generally used among researchers, with some using age 40 per U.S. age discrimination laws (Azoulay et al., 2020; Liang et al., 2018), while others target workers older than 60 years of age (Axelrad et al., 2020; Kunuroglu & Vural Yuzbasi, 2021; Mackenzie et al., 2018; Sherwood & Bismark, 2020). In this paper, the term *older worker* refers to adults who actively participate in the paid workforce at age 62 and beyond.

Blue-Collar Worker

A blue-collar worker is a person whose work entails predominantly manual and physical labor, both skilled and unskilled (Huang, 2011). Examples of blue-collar work include farming, manufacturing, trucking, construction, food processing, and other types of physical work.

White-Collar Worker

A white-collar worker is, in contrast to a blue-collar worker, an individual who performs professional services, managerial duties, or administrative work, typically in an office setting. Examples of white-collar work include academia, consulting, executive management, engineering design and development, finance, human resources, law, and healthcare (Weaver, 1975).

Knowledge Worker

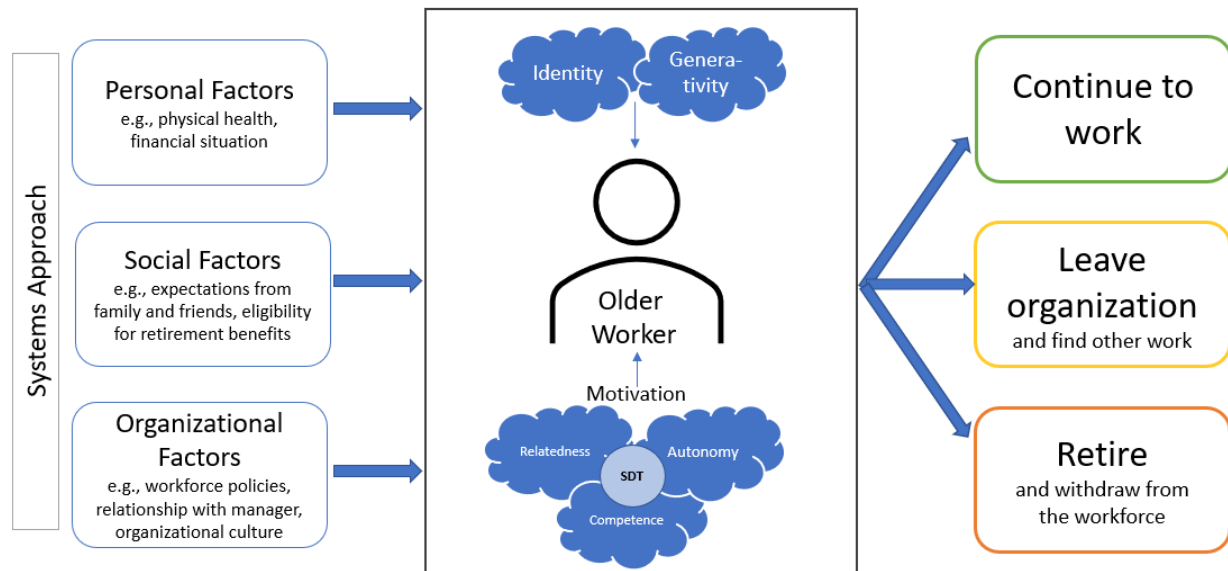
The term knowledge worker is often used as a new iteration of the white-collar worker. Peter Drucker first used it in 1952 to refer to “those who possess, utilize, and create valuable knowledge” (Surawski, 2019, p. 106). Drucker (1969) further described them as “the man or woman who applies productive work ideas, concepts and information rather than manual skill or brawn” (p. 41). On the other hand, Davenport (2005) defines knowledge workers more selectively as workers with high levels of professional knowledge, education, or experience, and whose work entails creating, transferring, and using knowledge. Researchers recognize the fuzzy and ambiguous definition of the term; whereas some researchers view knowledge workers as an elite sub-group of white-collar workers who work mainly with their brains and perform tasks that require extraordinary intelligence and knowledge, there are other researchers who use the term synonymously with white-collar workers and others who defined the term for specific industries such as high-tech (Surawski B, 2019). In this paper, I adopt the broad definition of knowledge worker by Peter Drucker in 1969 who uses and applies knowledge and information as main parts of their work, instead of physical labor.

Conceptual Framework

The conceptual framework (see Figure 2) directs this study on older workers. This study utilizes a systems approach to analyze the personal, social, and organizational factors that influence older workers' motivation to work. In this study, motivation is grounded in the concepts of identity and generativity based on Erikson's lifespan developmental theory (Erikson, 1959; Erikson & Erikson, 1998) and the three basic psychological needs of relatedness, autonomy, and competence based on self-determination theory (SDT; Deci & Ryan, 1985, 2000, 2008), which then influence older workers' decision to continue to work, leave the organization, or retire and withdraw from the workforce.

Figure 2

Conceptual Framework



Importance/Justification of Topic

Good health, longer lives, the need or desire to work longer, and public policies raising the age for retirement benefit eligibility and removing mandatory retirement ages for most jobs

have contributed to more adults postponing traditional retirement plans (OECD, 2016; Social Security Administration, n.d.). Unlike in previous decades, more adults above 65 will be working in the coming decades (Toossi & Torpey, 2017). This study seeks to contribute to the body of knowledge on the needs and motivations of older adults in the workplace to help support and retain older workers so that the continued participation of older workers in the labor market benefits the individuals themselves, the organization they work in, and the society they live in.

For the older worker, employment provides a source of income, and the positive impact of extended working lives on households' financial well-being is widely accepted (Bloom et al., 2011; Gerontological Society of America, 2018; Maestas et al., 2016). Working longer also has positive psychological effects on the older worker, including higher self-reported levels of happiness, a sense of purpose in life, increased physical activity, and a more positive perception of aging (Calvo, 2006; Jimenez, 2020; Lopina et al., 2019; Sewdas et al., 2017). However, working under pressure or in physically demanding jobs has a negative impact or no effect on older workers' level of life satisfaction (Axelrad et al., 2020). Findings from this study can help older adults in planning and making decisions about the role of work in their later years by providing data that can raise their self-awareness on factors that enhance or detract their motivations to continue to work.

Employers have a significant influence on the experience of extended working lives among older workers through their workplace programs and policies, organizational culture, and business practices and processes (Eichar et al., 1991; Lopina et al., 2019; Perry & Parlamis, 2006; Rogers & Meehan, 2007). For organizations, this study can provide HR professionals and executive leaders with in-depth insights of the needs and motivations of older workers so they can build inclusive organizational cultures and develop workplace policies that truly support the

recruitment and retention of older workers during a time of unprecedented demographic shifts as described by Templer et al. (2010):

The aging of the workforce is recognized as one of the dominant trends of this century in developed countries. The changing age distribution of the workforce will require employers to develop new and innovative staffing and career planning strategies that will convince older workers to remain in, or return to, the workforce. (pp. 496–497)

Scholars have projected that aging populations will lead to the slowing or even the reversal of labor force growth and result in lower economic growth in developed countries (Bloom et al., 2011; Hsu, 2017; Lai & Yip, 2021; Lisenkova et al., 2013; Maestas et al., 2016; Otsu & Shibayama, 2016). Older workers can alleviate these projected labor shortages by contributing to the available labor pool (Bloom et al., 2011; Lai & Yip, 2021; Vogel et al., 2017). Extending the workforce participation of older workers has many benefits including access to talent with decades of work and life experience, skills and knowledge, and established social relationships to their organizations (Leana & van Buren, 1999).

For societies, the continued participation of older adults in the labor market can mitigate the negative economic consequences expected from aging populations as governments “shift away from investment to consumption since government expenditure tends to increase to meet the increased demand for pensions and other old age-related benefits (such as health care)” (Lisenkova et al., 2013, p. 981). Economic conditions such as spending and labor productivity, public policy, and public social services such as Social Security, Medicare, and education are bound to be affected by aging populations (Bloom et al., 2011; Burke et al., 2015; Gerontological Society of America, 2018; He et al., 2016). Older workers contribute to the per capita output of the economy and stimulate greater human capital accumulation while reducing the proportion of dependents in society who need government-sponsored social programs (Vogel

et al., 2017). This study can provide insights from a broad, cross-sectional group of older Americans to understand their sentiments about work and retirement to aid governments address the larger structural constraints many older workers face, including labor market discrimination, increasing inflation rates, and pension eligibility.

This study can provide new and current evidence-based insights that can inform employers and policymakers as they consider the evolving needs of the aging workforce and develop appropriate strategies, programs, and policies that can truly support diversity in age at work, enhance the lives of older workers, and help businesses grow (National Academies of Sciences, Engineering, and Medicine, 2022).

CHAPTER 2: LITERATURE REVIEW

Age does not depend upon years, but upon temperament and health.

Some men are born old, and some never grow so.

—Tryon Edwards

This section provides an overview of the current literature on older workers, including the definition and characteristics of older workers, the challenges they encounter at work, and the role of the organization in influencing the work experiences of older workers and their motivation to continue to work. This literature review also covers major theoretical concepts related to older workers' motivation to extend their working lives, including adult lifespan development and work motivation. Due to the unprecedented demographic shift towards an aging population in the United States and other developed countries, there are gaps in the existing body of knowledge on the motivations of older adults aged 62 and older to continue to work beyond the traditional retirement age (Burke et al., 2015). Further research is needed to more deeply understand the factors that influence older workers' motivations to extend their working lives.

Literature Search Overview

The context of this literature review is the aging workforce brought about by longer lifespans, the raising of the age for retirement benefits, and the elimination of mandatory retirement ages for most jobs by law, coupled with lower birth rates as childbearing-aged adults choose to have fewer children (Burke et al., 2015; Hess et al., 2021; Perry & Parlamis, 2006). I started with conducting primary searches for peer-reviewed and highly-cited journal articles using Google Scholar, Semantic Scholar, and the Franklin Library of the University of Pennsylvania, followed by specific database searches on APA PsycInfo, SAGE, ABI/INFORM,

AgeLine, Emerald, and JSTOR, subsequently supplemented by handbooks and annotated bibliographies from Oxford and SAGE to identify seminal works. Given the relative recency of academic interest in the aging workforce, more attention was given to publications from 2010 onwards.

Search terms included keywords such as *older workers, older employees, late career, aging workforce, older people, employment, aging, work, motivation, autonomy, retirement, knowledge workers, age diversity, ageism, multigenerational workforce, future of work, lifelong learning, self-determination theory, multigenerational, and lifespan development*, as well as various combinations of keywords for a more targeted and in-depth search, such as *aging + work + motivation*. I focused on peer-reviewed articles on older workers' work experiences, specifically experiences that influence their decision to continue to work or retire, that were published within the past 10 years. I then included influential studies from the early 2000s that were referenced multiple times by more recent articles, especially those included in the Oxford annotated bibliography on employee aging (Ng, 2015).

Defining Aging and the Older Worker

The terms aging and older workers are central to this literature review. In this subsection, I discuss how these terms are conceptualized for the purposes of this dissertation.

What Is Aging?

Aging is a complex and multidimensional process that requires the consideration of other conceptualizations of age beyond simply being an effect of time (Kanfer & Ackerman, 2004; Lev et al., 2018). After all, the number of years an individual has lived does not define the physical, mental, emotional, financial—nor any—state of an individual. Individuals of the same

chronological age may demonstrate varying levels of physical health, work or career progress, psychosocial development, and family and community status.

Researchers have conceptualized age in the context of the workplace by distinguishing age among five different approaches: (a) chronological, based on calendar age; (b) functional, based on physical abilities and performance-based functioning; (c) psychosocial, based on social and self-perceptions, also called subjective age or how old an individual feels or desires to be; (d) organizational, based on tenure in the company, alluding to a potential relationship between calendar age and company tenure; and (e) lifespan, based on life cycle factors such as family or economic constraints, e.g., a partner's wishes and the value placed on leisure time (Mackenzie et al., 2018; Mitchell, 2020; Sterns & Doverspike, 1989). However, because chronological age is the easiest type of age to measure objectively, it is the one most often used by researchers as a proxy for age-related processes that can influence work performance (Kanfer & Ackerman, 2004; Nilsson, 2016).

Who Is the Older Worker?

The term *older worker* is an often-used term in academic research to study adults above a certain chronological age who actively participate in the labor market (Caines et al., 2020; Kooij et al., 2008; McCarthy et al., 2014). Because the word "older" may at times generate negative or ageist reactions in some people, attempts have been made to use other terms to describe those who are above a certain age group, often above 60 years of age, such as elder, senior, legacy, silver, and vintage (Golden, 2022). However, Golden (2022) found that none of these terms reflect the vitality and new opportunities many in their 60s and 70s have today, nor have these terms resonated with those who have received those labels. Instead, the term "older adult" was the most common and least offensive of the terms.

Numerous researchers seem to agree, given the number of published papers on “older adults” and “older workers” over the past few decades. Similar terms such as “late-career worker” and “aging worker” are sometimes used, albeit with more emphasis on the stage of their professional career or the evolving nature of getting older while employed (Alcover et al., 2021; Greller, 2006; Kooij et al., 2014; Mitchell, 2020). In my Google Scholar search for this review using these terms in February 2023, journal articles with “older workers” in their titles yielded 269,000 results, whereas “aging workers” and “late-career workers” returned only 7,570 and 563 results, respectively, providing evidence on the popularity of the term “older worker” among researchers. To align with the most accepted term used by researchers and the general public, I also use the term *older worker* in my dissertation.

But who is an older worker, and at what age does a working adult become one? Although adult populations have traditionally been categorized into three main age groups of young (ages 18 to around 34–39), middle-aged (from ages 35–40 to 59–65), and older adults (ages 60–68 and above; Lev et al., 2018), there is no agreed-upon standard or criteria for who the older worker is in academic research (McCarthy et al., 2014).

Not all research on older workers pertains to the same age demographic; instead, the researcher(s) oftentimes start with chronological age to then determine their own criteria depending on the topic and context of their study. For example, a study on entrepreneurs often considers those above 40 as *older* participants in their research (Azoulay et al., 2020; Liang et al., 2018), whereas a study on CEOs would consider those under 50 as *young* CEOs (Li et al., 2017; Serfling, 2014). Thus, some academic studies on older workers include participants aged 40 years and above, whereas other studies select participants who are at least 50 years of age (De Guzman et al., 2014; van Dalen et al., 2015; Zacher & Griffin, 2015) and, in more recent years,

those who are above 60 years old (Axelrad et al., 2020; Kunuroglu & Vural Yuzbasi, 2021; Mackenzie et al., 2018; Sherwood & Bismark, 2020).

The ambiguous definition of the term older worker not only exists in academia but also within organizations. When employees and managers were asked at what age a worker becomes considered older, responses widely varied, ranging from 28 to 75 years of age (McCarthy et al., 2014), thereby demonstrating the subjective, relative, and fluid nature of the term older worker.

Furthermore, public policy and local practices appear to also influence the definition of the term older worker strongly. Oftentimes, the eligibility age for pensions or age-related public programs also becomes the perceived retirement age or the mandated retirement age. In other cases, in accordance with the U.S. Age Discrimination in Employment Act of 1967, which identified employees above 40 years of age to be potential victims of age discrimination, studies on older workers have historically been conducted with participants aged 40 or above (Ng & Feldman, 2012).

Similarly, although there is no federally mandatory retirement age in the United States (U.S. Congress, 1986), the conventional retirement age has been generally accepted as dependent on the age at which individuals can start receiving partial or full retirement benefits from older-age programs such as Social Security and Medicare (i.e., 62, 65, or 67 years of age in the United States). This age criterion has led to normative expectations of the appropriate age to retire and the age group for studies on retirement and the decision-making process of older adults to extend their working lives (National Academies of Sciences, Engineering, and Medicine, 2022).

Effects of Work on Older Workers

Working longer impacts the older worker on an individual level and by extension, their households. This subsection discusses relevant findings on the implications of extended working lives for the older worker as an individual from financial, psychological, and health perspectives.

Financial

One of the crucial factors for older workers when deciding to continue to work or retire is ensuring they have allocated sufficient financial resources to support an enjoyable and sustainable standard of living throughout their lifetime (Gaillard & Desmette, 2008; Livanos & Nuñez, 2017). This is challenging because the future holds many unknowns such as the duration of one's lifespan and healthspan, the amount of dividend returns from invested assets, and the rate of inflation on consumer goods (Bronshtein et al., 2019).

Working longer and delaying retirement not only provides income for older workers, but also has a larger impact on a household's retirement standard of living than saving more over a longer period of time, especially when savings begin in middle age or later (Bronshtein et al., 2019). For example, Bronshtein et al. (2019) calculated that working for 3 to 6 months longer is equivalent to increasing retirement savings by one percentage point of labor earnings for 30 years. Therefore, extending their work lives is financially beneficial to all older workers, particularly for older adults with lower socioeconomic status who generally demonstrate lower savings rates during their working years (Munnell et al., 2018).

Psychological

Working longer has many positive psychological effects on the older worker, including higher self-reported levels of happiness, a sense of purpose in life, and a more positive perception of aging (Calvo, 2006; Jimenez, 2020; Lopina et al., 2019; Sewdas et al., 2017).

However, employment status as a singular factor is inconclusive in determining the psychological impact of work on older workers. Recent studies revealed that adults from different job industries between 60 to 80 years of age who were fully retired experienced a high level of life satisfaction, but so did older workers who were working in jobs where they continued to learn and develop new skills (Axelrad et al., 2020). On the other hand, working under pressure or in physically demanding jobs either had a negative impact or no effect on older workers' level of life satisfaction (Axelrad et al., 2020).

Furthermore, older adults who wanted to extend their working lives but could not find suitable employment reported lower levels of life satisfaction than retirees who did not search for new jobs (Dingemans & Henkens, 2014). That is, retired older adults who perceived their retirement as forced—whether due to personal reasons such as health or due to organizational reasons such as layoffs—experienced lower levels of life satisfaction compared to those who chose voluntary retirement (Dingemans & Henkens, 2014).

Based on these findings, working under positive conditions could positively increase levels of life satisfaction for older adults, but being employed does not guarantee life satisfaction. Instead, having a sense of control in determining when to work or retire and in shaping and structuring one's job has a more significant effect on an older adult's level of life satisfaction, rather than employment status alone (Axelrad et al., 2020; Dingemans & Henkens, 2014). This cannot be achieved by individuals alone without the support of their organizations.

Health

The health status of older workers is a significant determinant of their ability to work (Hiesinger & Tophoven, 2019). Conversely, work also affects the health of older workers. This

subsection discusses the impact that employment has on individuals' physical and cognitive health.

Physical Ability

Physical decline is often associated with aging. The deterioration of sensory and motor performance, gait speed, and other physical abilities has been associated with older age (Chodzko-Zajko & Ringel, 1987; Reinders et al., 2015). For older workers, poor health is a strong predictor of early retirement and withdrawal from the workforce (Pond et al., 2010; Robroek et al., 2013). However, medical advancements combined with healthy lifestyle choices and good genes, along with some accommodations in the workplace, have allowed more older adults to continue working in their later years, rendering ageist assumptions of less able older workers based solely on their chronological ages outdated (Butler, 2008). Studies have indicated that the productivity of older workers who remain active at work continues to be high in general, with variations depending on the workplace culture and job and industry requirements (Hilsen & Olsen, 2021).

But how does work affect the physical health of older workers? Although it is widely recognized that maintaining a certain level of physical stamina to fulfill work requirements is necessary to continue to work, studies on the effect of work on older workers' health are scarce and inconclusive (Pilipiec et al., 2020). There are studies that show that extended employment in physically demanding jobs negatively affects older workers' health, especially among less-educated workers (Pilipiec et al., 2020), and that retired adults show lower levels of physical fatigue (Westerlund et al., 2010). However, there are also studies that found that postponing retirement encourages older adults to engage in health-promoting behaviors such as regular exercise (Bertoni et al., 2018), thereby leading to an extended period of good physical health. In

fact, studies have shown that, independent of sociodemographic, lifestyle, and existing health factors, delaying retirement and extending working lives lower the risk of mortality and provide survival benefits among older adults (Wu et al., 2016).

Daily activities and environments, including work and employment, influence the experiences and the rate of physical decline of older adults, but in addition to chronological age and being employed, many other factors such as genetics, daily habits, job role, and work culture can influence older adults' physical health (Carpentieri et al., 2016; Taylor et al., 2019; Vanajan et al., 2019).

Cognitive Ability

Research over the past few decades has established that there are two broad types of cognitive abilities across the adult lifespan: fluid intellectual abilities (e.g., information processing, working memory, attention, and abstract reasoning) and crystallized intellectual abilities (e.g., general knowledge, experiential knowledge, occupational knowledge, verbal comprehension, and extent of vocabulary that refers to prior learning) (Cattell, 1943, 1987).

Although fluid intellectual abilities have been shown to peak in one's 20s and decline with age afterward, crystallized intellectual abilities continue to develop and increase with age, reaching maximum levels through one's 60s and 70s (Desjardins & Warnke, 2012). Thus, even though older workers may have experienced a decline in fluid intellectual abilities, they tend to compensate more than adequately with higher levels of crystallized intellectual abilities such as domain and job knowledge (Kanfer & Ackerman, 2004). As a case in point, an analysis of the data collected from the American Work Capacity and Abilities Survey (AWCAS) in 2018 found that although American older workers between 62 to 71 ages reported lower physical ability

levels than workers ages 25 to 61, their self-reported cognitive abilities remained at par with the younger groups (Berger et al., 2022).

Similar to physical ability, older workers must meet the cognitive requirements of their jobs. However, does having a job affect the cognitive health of older adults? Research indicates that work has an influence on cognitive health by providing opportunities for mental challenges and social interactions (Desjardins & Warnke, 2012; Kanfer & Ackerman, 2004). Cognitive decline is a complex process that involves many factors beyond chronological aging, such as biological changes, life habits, and social interactions (Desjardins & Warnke, 2012; Kanfer & Ackerman, 2004). As Desjardins and Warnke (2012) explained:

Although the evidence regarding the age-related decline of cognitive skills is widespread and the explanation that this may be part of ‘normal ageing’ is intuitively appealing, it is not possible regardless of research design to identify whether ageing effects are caused by neurological maturation effects, behavioural and practice effects, or the interaction of these with contextual effects. Moreover, there is some evidence to suggest that there are several factors that can mitigate, delay or prevent the cognitive decline that is associated with so called ‘normal ageing.’ Education, training, and a number of physical, social and mental activities have all been implicated as possible factors which help to mitigate the age-related decline in cognitive skills. (p. 55)

In other words, employment typically entails engaging in such physical, social, and mental activities and therefore can potentially mitigate cognitive decline that occurs over time (Bertoni et al., 2018; Desjardins & Warnke, 2012).

However, employment status alone does not predict health implications for older workers. Other factors such as an individual’s existing health conditions (both physical and mental), job requirements, working conditions, and organizational policies are intertwined and contribute to the effect of extended working lives on an individual’s health (Hiesinger & Tophoven, 2019; Pilipiec et al., 2020; Robroek et al., 2013). Researchers need to take these

multidimensional factors into consideration when studying the role of work in older workers' health.

Summary

Aging populations, combined with lower birth rates, require continued participation in the labor force market by older adults to mitigate economic declines and labor shortages. The positive impact of extended working lives on the economy and on households' economic well-being is widely accepted (Bloom et al., 2011; Gerontological Society of America, 2018; Maestas et al., 2016), but the implications of extended working lives on individuals' physical and psychological health vary based on job requirements, existing health conditions, individual goals and values, and many other factors (Hiesinger & Tophoven, 2019; Pilipiec et al., 2020; Robroek et al., 2013).

Older Workers and Lifespan Developmental Theory

This section explores stages of development that occur throughout the lifespan of individuals through the lens of Erik Erikson's theory of psychosocial development (Erikson, 1959; Erikson & Erikson, 1998), which was the first and arguably most influential researcher to propose that human development is shaped by interactions with others all through one's lifespan (Syed & McLean, 2018). This makes Erikson's theory particularly relevant to my study of older workers because lifespan developmental theories help provide structure and language to understand the meaning of work for older workers in late adulthood, especially as a higher number of older adults extend their working years beyond their 60s.

The variety of experiences and opportunities individuals encounter during their lifetime increases as they age, leading to increased heterogeneity among older workers (Baltes, 1987). Therefore, the differences among individual characteristics of older workers need to be

considered to understand older workers' motivation to continue to work, including socio-demographic determinants such as chronological age, finances, and health as well as developmental stages and attitudes proposed by lifespan perspectives (Wang et al., 2008; Weiss et al., 2022). Framing individual characteristics and preferences through Erikson's lifespan development theory (Erikson, 1959, 1963; Erikson & Erikson, 1998), self-determination theory (Deci & Ryan, 1985, 2000, 2008; Ryan & Deci, 2017), and socioemotional selectivity theory (Carstensen, 1993, 2006, 2021) can provide the structure and language necessary to discuss the preferences and characteristics of older workers.

Erikson's Lifespan Developmental Theory

Lifespan theories of human development attempt to define patterns of constancy and change across the human lifespan and the underlying processes that account for these patterns (Kagan, 1991). They name and describe the key issues or tensions that occur at particular stages of the lifespan. Life stages, also called developmental stages, are periods of life characterized less by chronological age but more by patterns of changes in self-concept as an individual and as a member of society (Newman & Newman, 2023).

Erik Erikson's (1959, 1963) theory of psychosocial development, originally proposed in the 1950s, is arguably the most influential among lifespan theories of development (Syed & McLean, 2018). Daniel Levinson (1986), for example, acknowledged Erikson when he wrote that the study of adult development "has been taken seriously in the human sciences...largely under the impact of Erikson's germinal writings" (p. 6). Erikson proposed eight major stages (infancy, early childhood, play age, school age, adolescence, young adulthood, middle adulthood, and late adulthood) that are tied to eight psychological crises or tensions: "trust vs. mistrust, autonomy vs. shame, initiative vs. guilt, industry vs. inferiority, identity vs. identity

confusion, intimacy vs. isolation, generativity vs. stagnation, integrity vs. despair” (Erikson & Erikson, 1998, p. 32). He also added a ninth stage in his 90s as he and his wife Joan reflected on their own journey beyond late adulthood into elderhood (Erikson & Erikson, 1998). Of particular relevance to the study of older workers are the middle and late adulthood stages, which makes Erikson’s theory of lifespan development particularly relevant for this study.

Erikson (1963) defined human development as occurring over a lifespan, from birth to old age, and also expanded the concept of development beyond the self to encompass social and cultural factors as one engages with the world. Erikson’s theory originally outlined eight fundamental psychosocial tensions, associated with developmental stages across one’s lifespan and facilitated by developmental tasks, such as the tension between trust and mistrust during infancy, identity and identity confusion during adolescence, generativity and stagnation in middle adulthood, and integrity and despair in late adulthood. The first six tensions are associated with infancy through early adulthood, whereas the last two tensions—generativity vs. stagnation and integrity vs. despair—occur during middle and late adulthood respectively. According to Erikson and Erikson (1998), “it is important to remember that conflict and tension are sources of growth, strength, and commitment” (p. 106). The resolutions of these tensions could be facilitated during the course of everyday life, of which work is often central for individuals in middle and late adulthood. The process of completing work could therefore be a developmental task.

Erikson (1959, 1963) proposed that developmental stages follow the epigenetic principle, “a biological plan for growth that allows each function to emerge sequentially until the fully functioning organism has developed” (Newman & Newman, 2023, p. 375). In contrast with other developmental stage theories, Erikson suggested that new insights or experiences in later stages

could prompt the review and reinterpretation of previous stages. He argued that individuals must balance various tensions—such as generativity vs. stagnation and integrity vs. despair—throughout their lives rather than only during a specific developmental stage, though some tensions are more salient and prominent at different points in time.

Erikson's tensions may be considered sequential only in that the balanced resolution of an earlier tension influences the successful resolution of subsequent tensions. Although specific tensions rise to prominence during general age periods, Erikson did not define chronological ages for when the tensions occur because individuals can vary in the duration in which they seriously engage with each tension based on their own personal and cultural contexts, as well as revisit previous tensions in the future. For example, the tensions involving identity development and generativity do not necessarily occur only at a certain chronological age period, namely adolescence and middle adulthood (Erikson & Erikson, 1998). Given the current labor conditions wherein retirement decisions are occurring at different and likely later chronological ages than previous generations, Erikson's lifespan theory of development is potentially a useful framework for conducting research on the experiences of older workers as they encounter Erikson's tensions while at work, regardless of their chronological age (Mitchell, 2020).

Work as Developmental Tasks

This subsection examines the function of work for older workers in relation to the developmental tasks identified by Erikson in his nine stages of life. Work can directly address and influence the developmental tasks associated with at least three of Erikson's identified tensions: intimacy (through social relationships at work), identity (professional or career identity as part of the whole self), and generativity (producing value through caring for others and leaving a legacy of contribution) (Mangione et al., 2020). Thus, an increasing number of

researchers who study workers ages 40 and above use lifespan development theory, particularly Erikson's theory and his syntonic qualities of identity and generativity, as a framework to understand older workers' motivation to continue to work beyond standard retirement age (Jolles et al., 2022; Lin, 2020; Mitchell, 2020; Mor-Barak, 1995; Shilo-Levin et al., 2021).

Identity. Erikson's writings on individual identity were influential not only on subsequent developmental theory and research but also on popular culture, where the phrase "identity crisis", coined by Erikson, has now become part of everyday vernacular (Syed & McLean, 2018).

Identity, defined as "parts of a self, composed of meanings that persons attach to the multiple roles they typically play in highly differentiated contemporary societies," is a central concept in Erikson's lifespan developmental theory (Stryker & Burke, 2000, p. 284). Erikson posited that the identity search process might begin during adolescence, whereby forming a sense of self and how one's roles fit into society is the primary developmental task of adolescents. However, as individuals incorporate new life experiences, identity can continually be modified throughout adulthood. Indeed, studies have found that older adults aged 65 to 75 have engaged in identity reintegration and reevaluation tasks as they have experienced the changes in late adulthood (Kroger, 2002).

People find their identity through the various parts of their lives, including family, work, and personal hobbies (Hutton, 1999; Newton & Ottley, 2020). Although not all adults tie their identity to their work, labor participation and their role as a worker shape the professional identity of many workers, such as doctors, engineers, and teachers (Calvo, 2006). Many workers indicate a strong work identity through their high level of job involvement, especially those who work beyond the minimum requirements of their jobs and feel a sense of losing or sacrificing

their professional identity upon retirement (Newton & Ottley, 2020; Price, 2000). A strong sense of work identity, i.e., a sense of meaningful integration of the various roles one holds in society that are valued and accepted, has been correlated with the desire to remain in the workforce for older adults (Borrero & Kruger, 2015; Newton & Ottley, 2020).

Generativity. Generativity is a tendency that emerges in adulthood and is about “leaving the world a better place than we found it and contributing to a future that will outlive us” (Mitchell, 2020, p. 46). Generativity encompasses “productivity and creativity, and thus the generation of new beings as well as of new products and new ideas, including a kind of self-generation concerned with further identity development” (Erikson & Erikson, 1998, p. 67). Generativity is often about care as many manifest their generativity by caring for their children or parents and helping the community through work (Erikson, 1959, 1963).

According to Erikson’s lifespan developmental theory, generativity is a tendency that emerges over time for older workers, although the chronological age and level of generativity are unspecified in Erikson’s lifespan developmental theory. As middle adulthood transitions into late adulthood, the emphasis on “time-normed social-clock projects of family and work” gradually transitions to the “facilitation of others and the responsible use of power” (Mitchell, 2020, p. 38).

For older workers who have accumulated years of experience and skills and are experiencing generativity, work “can make a more effective, vivid, enduring, or powerful contribution to that which we care about and care for in our work life—a sort of pinnacle of generative usefulness” (Mitchell, 2020, p. 38). This generative perspective is particularly germane for older workers who have an increased awareness of aging and subsequently, of their time left to live.

Studies have shown that jobs providing opportunities for generativity can be more meaningful for older workers, such as jobs that include providing training, supervision, and transfer of knowledge and skills to younger generations (Mor-Barak, 1995). For these reasons, older workers have at times been described as “wise counsel” (Sherwood & Bismark, 2020).

Considerations About Erikson’s Lifespan Developmental Theory

With all of that said, because developmental theories reflect the time, place, and intersecting identities of their authors—who are mostly affluent middle-aged White men in Europe or the United States in the 20th century—unconscious bias pertaining to gender, race, class, age, and cultural worldviews may underlie some of these research studies and theories (Mitchell, 2020). For example, some have argued that adult development models such as Erikson’s construct of personal identity stress the importance of self-sufficiency and individuation or separate self—characteristics that are reflected more in traditional male gender roles—while they neglect intimate social relationships and satisfying social commitments—characteristics that are more central to traditional female gender roles (Gilligan, 1993; Sorell & Montgomery, 2001). Furthermore, most developmental theories do not consider how poverty or class limitations could suppress developmental opportunities, nor do they consider life decisions shaped by more collectivistic or non-White cultural groups (Mitchell, 2020). Also, rarely have these developmental theorists lived into the oldest age group (95+ in age)—similar to the general population—which could alter how they define later stages of development in life (Newton & Ottley, 2020).

Erik Erikson and his wife Joan themselves addressed the incompleteness of their initial lifespan theory with eight tensions or stages when they wrote their last book in their 90s and dedicated an entire new chapter to a new ninth tension—gerotranscendence vs. struggle—as they

themselves experienced physical limitations and reflected on their lives (Erikson & Erikson, 1998). Erikson's lifespan developmental theory continues to be studied and evolve; in today's changing times, when more people are considering extending their working lives longer than their parents, further research on the experiences of both male and female older workers from diverse socioeconomic and cultural backgrounds could provide relevant findings on the role of work as a developmental task in their 60s and beyond.

Motivation Theories

This section provides an overview of the theoretical frameworks of self-determination theory (SDT; Deci & Ryan, 1985, 2008) and socioemotional selectivity theory (SST; Carstensen, 1998, 2006) to present current literature on the antecedents of older workers' motivations for working beyond traditional retirement age. Framing individual characteristics and preferences through self-determination theory (SDT) and socioemotional selectivity theory (SST) can provide the structure and language necessary to discuss the individual preferences and characteristics of older workers.

Work motivation consists of both internal factors, e.g., effort and fulfillment, and external factors, e.g., salary and work environment (Cunningham et al., 2015; Deci & Ryan, 2008; Halvari & Olafsen, 2022; Loi & Shultz, 2007). Despite popular beliefs that work motivation declines with age, empirical evidence has not supported the notion of a universal and inevitable decline associated with age (Kanfer & Ackerman, 2004).

Self-Determination Theory of Motivation

Self-determination theory is an empirically derived meta-theory of human motivation and personality (Deci & Ryan, 2008; Ryan & Deci, 2017). In contrast with other motivation theories, SDT is broad enough to provide the structure and language for different studies on motivation,

yet detailed and distinct enough to provide depth of analysis on human motivation (Deci & Ryan, 2008; Ryan & Deci, 2017). Using SDT to frame the study on why older workers decide to continue to work therefore provides a broad conceptualization of both intrinsic and extrinsic motivational factors in how individuals and organizations alike can view older workers' motivation to continue to work due to its impact on the decision to work, employee engagement, productivity, and well-being of workers (Gagné, 2014; Steers et al., 2004).

History of SDT

Deci and Ryan (1985) introduced self-determination theory as an empirically derived meta-theory of human motivation and personality that conceptualizes human beings' inherent tendency for self-motivation and development, which can be supported or thwarted by social-contextual conditions. Prior to SDT, the study of motivating desired behavior—be it in humans, rats, or pigeons—focused on the use of external reinforcers to encourage or dissuade behavior (Hull, 1943; Skinner, 1953), whereby action (or inaction) was viewed as a function of contingent rewards and punishments external to the individual. This type of motivation, referred to as extrinsic motivation, dominated the field of psychology until the 1950s (O'Hara, 2014). In the workplace, extrinsic motivation can come in the form of a salary, monetary bonuses, work opportunities, promotions, social recognition, and other forms of external incentives that are used to drive employee behavior (Heyns & Kerr, 2018). However, extrinsic motivation alone cannot explain inherent behaviors such as exploration and mentoring that occur spontaneously even without external incentives (Deci & Ryan, 2000). Around the 1960s, theories exploring both intrinsic and extrinsic motivations gained more attention, including the expectancy-valence theory of motivation (Vroom, 1964), acquired needs theory (McClelland, 1965) and the hierarchy of needs theory of motivation (Maslow, 1943, 1970).

Expanding on earlier theories of motivation, Deci (1971) proposed that human beings inherently possess intrinsic motivation and have natural tendencies to learn, create, and seek novelty and challenge. Humans are motivated to expand beyond their current capacities to gain mastery, assimilate in their communities, and explore spontaneous interests, especially in contexts where they feel secure and connected with others (Deci & Ryan, 2000). This type of motivation is referred to as intrinsic motivation, an understanding of motivation in which the desire to perform an action is inherent and primarily comes from the joy and satisfaction in performing the task itself, regardless of external rewards or consequences. According to the authors, “SDT specifically assumes that humans have evolved to be inherently curious, physically active, and deeply social beings” (Ryan & Deci, 2017, p. 4).

Deci and Ryan (1985, 2000) posited that intrinsic motivation is an inherent characteristic of human beings who have natural tendencies to grow, master challenges, and integrate new experiences to form their individual coherent sense of self, regardless of age or life stage. According to SDT, human beings are motivated optimally and perform best when their three basic and universal psychological needs are satisfied: (a) autonomy, having a sense of choice and flexibility; (b) competence, the belief in one’s own capabilities; and (c) relatedness, the sense of having a secure relational base, whether proximal or not to the behavior.

Among the three needs—autonomy, competence, and relatedness—both the need for competence and the need for relatedness (or having strong relationships) are generally widely accepted within the field of psychology and are consistent with other prominent theories. However, the universality of the need for autonomy has repeatedly been challenged, with some arguing that autonomy is a male characteristic or that collectivist cultures such as East Asian cultures value relatedness and community and do not value autonomy (Jordan, 1997, as cited in

Deci & Ryan, 2012). Further cross-cultural studies of autonomy with participants from China, Korea, and the United States were conducted and confirmed that being autonomous and having autonomy-supportive teachers or managers are just as important in China, Korea, and other collectivist contexts, similar to the United States and other Western cultures that value individualism (Bao & Lam, 2008; Jang et al., 2009). Numerous studies have shown that the satisfaction of the basic psychological needs presented within SDT is associated with psychological well-being regardless of individualistic or collectivist cultures, gender, or age (Deci & Ryan, 2012).

Control-to-Autonomy Continuum

Whereas other theories of motivation (Porter & Lawler, 1968; Vroom, 1964) view motivation as a singular concept, SDT differentiates motivation types based on varying degrees of self-determination and self-regulation, ranging from amotivation (AMO), the absence of any motivation to act, to intrinsic motivation (IM), the desire to perform an action for its inherent satisfaction and is therefore invariably self-determined (Gagné & Deci, 2005). Within this continuum, extrinsic motivation—the desire to perform an action in order to achieve an external reward or avoid negative consequences, whether directly or indirectly—lies between amotivation and intrinsic motivation. Using the concept of internalization, extrinsic motivation is categorized into four types: (a) external (EXT), in which the action is completely driven by the presence of external rewards or punishments and is, therefore, the most “controlled” and least self-determined; (b) introjected (INTRO), in which an action is adopted to avoid guilt or build one’s ego, and is thus also considered “controlled” motivation; (c) identified (IDEN), in which the desire to perform is driven by personally identifying with the value of the behavior, and is considered self-determined and autonomous motivation; and (d) integrated (INTEG), whereby

the identification with the behavior has been integrated with other aspects of their core values and is considered the most self-determined and autonomous among extrinsic motivations (Deci & Ryan, 2000).

The SDT model posits that motivation is a complex phenomenon with multiple factors and that combining intrinsic and extrinsic rewards together would yield total motivation, thereby implicitly suggesting the additivity of motivation as a singular unit. The distinction between autonomous or self-directed motivation (intrinsic, integrated, or identified motivation) and controlled motivation (external or introjected motivation) is central to SDT (Gagné & Deci, 2005). Studies have found that autonomous motivation is associated with well-being and improved learning outcomes such as academic grades and deep learning (Guay et al., 2008, as cited in Deci & Ryan, 2008).

Defining autonomous motivation to include intrinsic motivation and the internalization of extrinsic motivation in the cases of integrated and identified motivations allows the prediction of social and environmental conditions under which internalization and the developmental process can be supported to satisfy the basic psychological needs for autonomy, competence, and relatedness. For example, SDT suggests that when employees engage with their work environment with greater autonomous motivation, they show greater perseverance and higher quality behavior (Gagné & Deci, 2005). As such, SDT concepts have been used successfully as a framework in numerous studies to predict variance in human behavior and have led to recommendations on how social context can enhance or diminish human motivation with the use of tangible and intangible rewards and punishments as cues to convey orientation toward autonomy or control, competence or incompetence, and level of relatedness (Deci & Ryan, 2012).

Applying SDT to Older Workers

Work motivation is a central factor in older workers' decision to continue to work (Halvari & Olafsen, 2022). Examining the combination of different work motivation programs through the lens of SDT can therefore provide insight into why older workers choose to retire or extend their working lives.

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In the workplace, extrinsic motivation can include salary, job title promotions, and public recognition, whereas voluntary participation in creative and exploratory activities such as company hackathons and learning programs are examples of intrinsically motivating learning opportunities (Purwanto et al., 2019). However, pertinent to the study of older workers, the number of employees who participate in continued education or company training programs has been shown to gradually decrease after the age of 35, despite the positive effects of continued lifelong learning on older workers and their ability to participate actively in the workforce (Hilsen & Olsen, 2021). This may be related to findings that show that organizations invest less in the training and development of older workers, as well as how older workers choose to prioritize their time based on how they perceive the training to be useful or relevant for them (Hilsen & Olsen, 2021).

Furthermore, studies with older workers have found that SDT can be a helpful conceptualization to use in the study of their motivation to continue to work, particularly because more than half of studies conducted prior to 2017 on this topic have not used any motivation theory (Cunningham et al., 2015; Halvari & Olafsen, 2022; Pak et al., 2019; St-Onge & Legault, 2022). Researchers have recently started to use SDT in the research of extending working lives. For example, a recent study showed that older workers who perform knowledge-based, white-collar work are motivated to continue to work longer when the basic psychological needs presented within SDT of autonomy, competence, and relatedness are fulfilled along with a fourth need for beneficence or a broader sense of purpose that is related to the concept of generativity in Erikson's lifespan theory (St-Onge & Legault, 2022). Another study showed that older employees who are highly motivated autonomously—as defined by SDT—demonstrate “higher levels of vigor and lower levels of job stress, exhaustion and turnover, and retirement intentions” compared to those with lower motivation (Halvari & Olafsen, 2022, p. 8). Therefore, SDT is a helpful framework for analyzing the motivations of older workers to continue to work beyond the traditional retirement age.

Socioemotional Selectivity Theory

Socioemotional selectivity theory (SST) is a lifespan theory of motivation that proposes that as individuals' perspectives of future time left in their lives change, their priorities shift from preparatory or growth goals such as acquiring knowledge to emotional stability goals such as savoring experiences with others (Carstensen, 1998, 2006). Applied to the workplace, SST proposes that older workers remain interested in new learning but place increasing value on emotional goals such as healthy relationships as their future time perspective (FTP) or perception of their remaining time at work becomes more limited (Carstensen, 2021).

History of SST

Socioemotional selectivity theory (SST) was introduced by Carstensen (1993) as a lifespan theory of motivation whereby “the universal awareness of the passage of time is a powerful driver of human motivation and emotional experience” (Carstensen, 2021, p.1190). SST includes the setting of goals and prioritization of goals and activities, as well as cognitive processes such as attention and memory.

SST recognizes two main classes of psychological goals: (a) preparatory goals, such as acquiring knowledge, exploring novel experiences, or starting new relationships, and (b) emotional goals, such as attaining emotional satisfaction or a sense of purpose and belonging (Carstensen, 2021). SST posits that individuals prioritize preparatory goals and emotional goals differently:

When time horizons are long and nebulous, as they typically are in youth, people prioritize goals that prepare them for seemingly endless and winding roads ahead. Under these conditions, great value is placed on knowledge building and exploration, even when such efforts are emotionally challenging. As time horizons grow shorter, as they typically do with age, emotional goals are prioritized over exploration. When time is limited, its value increases and people selectively invest in important activities with a focus on savoring experiences in the moments when they occur. Over the years, people shift from preparatory to consumptive goals, from goals about the future to goals realized in the present. At no point do older people stop caring about new learning, nor do younger people eschew emotional goals. Rather, the relative priority placed on exploration and meaning varies as a function of the temporal context in which goals are pursued. (Carstensen, 2021, p. 1190)

In other words, SST proposes that older workers remain interested in learning new skills but they prioritize emotional goals as their perception of their remaining time at work, or future time perspective (FTP), becomes more limited. An important concept in SST is the understanding of FTP.

Future Time Perspective

Future Time Perspective (FTP) refers to the perceived experience of time in the future and is a “malleable, cognitive-motivational construct that develops and changes as a function of experience over the life span” (Kooij et al., 2018, p. 869). Although studies have shown that individuals’ perception of the future as a time of opportunities remains constant between the ages of 40 and 60, a sharp increase in the awareness of aging happens by age 60 (Cate & John, 2007). Thus, FTP is particularly pertinent in the study of older workers whose perspective of future time remaining at work or in life is different from those of younger workers.

Underlying FTP is the recognition that an individual’s perspective of time can change based on the situation or activity such that the ordinary belief that time is passing is separate from the feeling of time passing (Torrengo, 2017). For example, the passing of time is perceived to be faster during flow states when individuals become totally absorbed and focused on the task at hand and human consciousness is at an optimal state (Csikszentmihalyi, 1990), whereas the passage of time seems to slow down for individuals older than 75 years in retirement homes (Droit-Volet, 2019).

FTP has been defined as “the totality of the individual’s views of his psychological future and psychological past existing at a given time” (Lewin, 1951, p. 75), and broadly as the “general concern for and corresponding consideration of one’s future” (Kooij et al., 2018, p. 869). FTP has also been defined as the amount of time people perceive they have left in life (Carstensen et al., 1999; Kooij et al., 2018). A higher FTP indicates a more optimistic view of the future and has been positively correlated with higher achievement-related tendencies and goal setting as well as health-related behaviors such as physical exercise, whereas a lower FTP has been correlated with retirement tendencies (Bertoni et al., 2018; Kooij et al., 2018).

Occupational Future Time Perspective

An extension of FTP when it is applied to the work context is called occupational FTP (OFTP), which includes three dimensions: the individuals' perceived remaining time in employment, the individuals' perceptions of work-related opportunities and goals in the future, and the individuals' perceptions of limitations and constraints in the work they can do in the future (Rudolph et al., 2018; Zacher & Frese, 2009).

Multiple studies have demonstrated the moderating effects of FTP (Kochoian et al., 2017; Kooij et al., 2018; Rudolph et al., 2018; Zacher & Frese, 2009). As workers get older, their occupational FTP (OFTP) also changes, and along with it, their motivation and performance at work (Zacher & Frese, 2009). OFTP tends to decrease as chronological age increases, i.e., older workers tend to perceive their remaining time and possibilities at work to be more limited than when they were younger, which then leads to retirement intentions (Kooij et al., 2018; Zacher & Frese, 2009).

Furthermore, researchers have shown that essentialist beliefs held by older workers with a more restricted OFTP perceive aging as an absolute and unalterable process and tend to retire earlier and are less motivated to continue to work beyond retirement age (Weiss et al., 2022). At the same time, older workers who self-reported better health also reported longer OFTP due to their view of having more stamina and necessary resources to continue investing in their work (Kooij & Van De Voorde, 2011). Thus, OFTP is an important factor in the motivation of older workers to continue to work.

Applying SST and FTP in the Workplace

According to SST, older workers' emotional health generally improves with age, and thus, they experience more socioemotional advantages during the same time that they may be

experiencing physical and fluid intelligence declines (Carstensen, 1998, 2021; Mackenzie et al., 2018). This has been coined the paradox of aging (Carstensen, 2019; Williams et al., 2008). Individuals and organizations can attract and retain older workers by understanding the paradox of aging in the workplace and implement programs to support older workers in continuing to remain active in the labor market as they age.

Older Workers in Organizations

This section covers stereotypes and workplace practices that affect older workers' experiences at work and their motivation to extend their working lives. Older workers face difficulties in finding or maintaining employment due to stereotypes about older people, workplace conditions and policies, and other cultural and individual reasons (Cuddy et al., 2005; Harris et al., 2018; Neumark et al., 2019; Perron, 2018).

Ageism in the Workplace

In a study by the American Association of Retired Persons (AARP), more than 60% of survey respondents reported either experiencing or witnessing age discrimination in their workplace, but only 3% filed an official report to their employer or a government agency (Perron, 2018). Furthermore, experiences of age discrimination are more prevalent among people of color as well as middle-aged and older women (Perron, 2018).

Although there are positive stereotypes of older workers such as their higher levels of social skills, reliability, experience and knowledge, strong work ethic, commitment, and loyalty to the organization (Harris et al., 2018), negative stereotypes are more prevalent, including being less trainable, less ambitious, more rigid, less efficient, less physically capable, and less technologically proficient (Chiu et al., 2001; Cuddy et al., 2005; Marchiondo, 2015; Ng &

Feldman, 2012). Sometimes, both positive and negative stereotypes are applied simultaneously such as when older workers are “perceived as incompetent but warm” (Lev et al., 2018, p.51).

Negative ageist stereotypes are ubiquitous in the workplace and stubbornly resistant to change (Cuddy et al., 2005). In a review of more than 20 studies related to age and aging in organizations from recruitment to retention and ultimately to retirement, Perry and Parlamis (2006) found that older worker stereotypes were pervasive not only among employees but also among managers across regions; older workers were consistently perceived as more dependable and reliable, yet more difficult to train and less adaptable (Perry & Parlamis, 2006).

However, studies have repeatedly shown that the correlation between age and negative stereotypes on lower job efficacy, work motivation, innovation, and willingness to learn are weak to non-existent (Cunningham et al., 2015; Marchiondo, 2015; Ng & Feldman, 2010, 2012). Older workers can be as productive, motivated, and willing to participate in training programs and take advantage of learning opportunities as younger workers (Cunningham et al., 2015; Marchiondo, 2015; Ng & Feldman, 2010, 2012), especially when they perceive the training opportunity to be useful or relevant for them (Hilsen & Olsen, 2021).

Stereotypes affect the work experience of older workers (Marchiondo, 2015). Older workers’ self-perception and self-efficacy could be affected if they themselves start believing the stereotypes in a phenomenon called self-ageism (Chiesa et al., 2016). Stereotyping can affect opportunities provided to older workers such as the amount of training and career development offered to older workers (Van der Heijden et al., 2009), such that older workers indeed receive less training and development, which leads to outdated skills and knowledge, thereby becoming a self-fulfilling prophesy.

Role of Human Resources and Management in Organizations

The decision to extend one's working years involves multiple factors such as work characteristics, skills and knowledge, financial and social reasons, and purpose (Sewdas et al., 2017). Many of these factors can be influenced by organizational policies and interventions that affect employers' attitudes and policies toward older workers, which then have a huge influence on workers' engagement and motivation at work which can subsequently affect their decision to work beyond retirement age (Chiu et al., 2001; Harris et al., 2018; Kooij et al., 2008, 2014; McCarthy et al., 2014; Pak et al., 2019; St-Onge & Legault, 2022).

For example, studies have shown that mandatory retirement age policies have potentially negative consequences on older workers' work motivation because they lead older workers to perceive their OFTP as more limited (Weiss et al., 2022; Zacher & Frese, 2009) and make them feel less competent (Vallerand et al., 1995). Furthermore, organizations often reduce the investment in training older workers when mandatory or involuntary retirement policies are in place, thereby reducing access to career development opportunities and limiting their skills and ability to fulfill work requirements over time (Kesselman, 2004). Therefore, organizational policies and practices such as mandatory or involuntary retirement need to be re-examined to help organizations retain and motivate older workers to extend their working lives (Zacher & Frese, 2009).

Organizational and managerial practices can support extended working lives but need to consider the diversity of factors affecting older workers, such as patterns of adult lifespan development and work motivation (Kanfer & Ackerman, 2004) beyond the usual focus on chronological age and financial and other extrinsic rewards (Sewdas et al., 2017). For example, although perceived OFTP is based on the individual, organizations can influence their

employees' OFTP through interventions and HR programs that deliver the message that older workers can also achieve their valued goals through work without needing to retire (Visser et al., 2021; Weiss et al., 2022). Examples of recommended HR programs include employee programs that highlight the malleability of the aging process and manager programs that promote an organizational culture that supports older workers (Visser et al., 2021; Weiss et al., 2022). In addition to compensation, inclusive work environments, performance appraisals, and career development affect organizational commitment, which then indirectly affects employee retention (Paul & Anantharaman, 2003).

Kooij et al. (2014) posited four types of HR practices for supporting older workers: developmental, maintenance, utilization, and accommodative practices. Developmental practices provide training and development for older workers, such as opportunities to receive training or on-the-job development. Maintenance practices provide support and feedback to retain the necessary level of performance, such as performance appraisals, health checks, or opportunities to receive coaching. Utilization practices consider the strengths and evolving prioritizations of older workers to enable their continued active participation in the workplace, such as opportunities to provide mentoring or job redesign programs that leverage older workers' competencies, e.g., higher crystallized intelligence. Finally, accommodative practices help older workers adapt to the workplace as their physical and cognitive abilities change over time through support programs such as ergonomic workstations or options for reduced workload.

Researchers recommend retention policies that are proactive, aligned to long-term HR strategy (rather than ad hoc solutions), and as individualized as possible (Claes & Heymans, 2008; Visser et al., 2021). In line with SDT's principles of intrinsic motivation through the fulfillment of the three basic psychological needs of autonomy, competence, and relatedness

(Deci & Ryan, 2000, 2008) and Erikson's lifespan development stages on generativity and identity (Erikson & Erikson, 1998), research on extending working lives of older workers has recommended organizational programs and rewards that provide opportunities for "autonomy, participation in training, transfer of their competence, and taking up relevant roles in work teams" (Claes & Heymans, 2008, p. 107). Relevant roles at work can go beyond project assignments. Similar to research findings that indicated that when individuals have regular contact with their grandparents, they have more positive explicit attitudes toward older adults in general (Tam et al., 2006), more opportunities for positive intergenerational connections within the workplace such as HR-sponsored employee resource groups, mentoring programs, or team work projects can help reduce negative stereotypes and foster a sense of belonging and purpose with older workers (Burke et al., 2015). Furthermore, autonomy in the form of flexibility in choosing work projects, work location (e.g., in-office or remote or hybrid), and working hours (whether full-time or part-time) has a positive correlation with working longer (Ulrich & Brott, 2005; Virtanen et al., 2014).

Organizational practices and policies directly affect the experience of older workers in the workplace (Claes & Heymans, 2008; Kooij et al., 2014; Paul & Anantharaman, 2003), which then influence older workers' motivation to continue to work (Chiu et al., 2001; Kooij et al., 2008). These HR practices can be developmental, maintenance, utilization, or accommodative practices and need to be implemented as a comprehensive strategy rather than ad hoc siloed practices to be effective in supporting older workers in the workplace (Kooij et al., 2014).

Gaps in the Literature

Longer and healthier lifespans coupled with low birth rates have led to aging populations and subsequently, the need for older adults to extend their working lives (Bloom et al., 2011;

Maestas et al., 2016). Aging populations lead to aging workforces. Yet not enough is known about this group of older workers in their 60s and 70s, and organizations are ill-equipped to attract and retain them due to ageist attitudes and a general lack of understanding of older workers' needs and motivations (Burke et al., 2015), thereby making it a challenge for many older workers to continue working despite their ability and desire to do so.

The unprecedented demographic shift of aging workforces reveals a number of literature gaps. Although many studies on older workers have been published in the past few decades, the majority of those studies involved participants in their 40s, 50s, or early 60s with much fewer studies on older workers in their late 60s and 70s (Axelrad et al., 2020; National Academies of Sciences Engineering and Medicine, 2022).

For the same reason, many theories of adult lifespan development and human motivation such as SDT have also not been empirically verified with working adults in their late 60s and 70s because of the recency of this demographic shift (National Academies of Sciences Engineering and Medicine, 2022). For example, associating chronological age with developmental stage is becoming less relevant today, especially with middle and late adulthood transitions as more people live longer and stay healthier through their 80s and beyond (Newman & Newman, 2023). Whereas the transition to late adulthood used to be defined as occurring between 60 to 65 years of age when many older workers retire, this could gradually become 70 to 75 years of age over the next two decades as longevity increases and more older workers extend their working lives into their 70s and 80s (Burke et al., 2015; Gerontological Society of America, 2018). Studies to improve the understanding of life stage tensions around identity and generativity for older workers in their 70s can help fill the gap left by older studies that focused on workers in their 50s and 60s.

Furthermore, detail is lacking on meso-level forces such as workplace norms, policies, workgroup, and job conditions within the context of the employer-employee relationship (Kooij et al., 2020; Marcus, 2020). Motivating older workers to continue to work and extend their working lives involves understanding not only the older workers as individuals but also reviewing organizational practices. This is because the reasons for extending work beyond retirement age are complex, encompassing personal, organizational, and government-related factors. In particular, organizational-related factors include organizational culture, work-related performance requirements, and skills and knowledge needed. However, organizational strategies, policies, and practices require customization because these policies and practices will not universally apply to all older workers due to different business conditions and the heterogeneity among older workers (Templer et al., 2010).

In order to determine what strategies, policies, and practices are most beneficial for older workers in their 60s and 70s, new and current evidence-based insights on the motivations of older workers to extend their working lives are needed to inform organizational and government leaders and members as they consider the evolving needs of the aging workforce and develop strategies, policies, and practices to create an inclusive workplace that attracts and supports older workers, which in turn leads to healthy lives and successful businesses.

CHAPTER 3: RESEARCH METHODOLOGY

In the long run, we shape our lives and we shape ourselves.

The process never ends until we die.

And the choices we make are ultimately our own responsibility.

—Eleanor Roosevelt

This chapter presents the research methodology for my study. In this chapter, I present the study design and approach, and the rationale for the mixed methods research approach. I then outline the qualitative and quantitative research process and provide justification for the participant selection, data collection, and data analysis approach. Lastly, I discuss potential validity concerns and mitigation methods.

In Chapter 1, I defined the context of aging populations and their projected effects on economies, organizations, and most importantly, the individuals themselves. Increasing lifespans and healthspans entail extended working lives (Bloom et al., 2011; Maestas et al., 2016). I then introduced the problem statement regarding the need to understand the motivations of older workers. Oftentimes, the motivation and decision to continue to work or conversely, to retire, is viewed as a predominantly individualized process influenced by individual situations such as health conditions, family members requiring care or companionship, or individual ambitions, or by macro-level forces such as economic downturns and the availability of government-sponsored retirement benefits (National Academies of Sciences Engineering and Medicine, 2022; Robroek et al., 2013; Vanajan et al., 2019, 2020; Virtanen et al., 2014). Yet, aging populations lead to aging workforces. Organizations also play an important role in addressing this unprecedented demographic shift and attracting and retaining older workers (National Academies of Sciences Engineering and Medicine, 2022).

In Chapter 2, I outlined the literature gaps in understanding the motivations of older workers to continue working. These include the dearth of studies on older workers in their 60s and 70s today because existing studies on older workers predominantly include workers in their 40s, 50s, or early 60s (Axelrad et al., 2020; National Academies of Sciences Engineering and Medicine, 2022). Furthermore, detail is lacking on meso-level forces such as workplace norms, policies, workgroup, and job conditions within the context of the employer-employee relationship (Kooij et al., 2020; Marcus, 2020). These gaps reveal the need for new and current evidence-based insights to inform organizations, leaders, and employees as they consider the evolving needs of the aging workforce and develop strategies, policies, and practices to create an inclusive workplace that attracts and supports older workers, which in turn leads to healthy lives and successful businesses.

This study aims to contribute to the current body of knowledge regarding longevity in the workplace by bringing forward the voices of older workers in their 60s and beyond and their motivations to continue to work. Study results can provide insights for organizations and governments in addressing the larger structural constraints faced by older workers in the form of policies, programs, and cultural norms. The research question to address the objectives of this research study is:

Research Question: What do older workers identify as factors that influence their motivation to continue to work beyond the traditional retirement age?

Study Design and Approach

This section outlines the research methodology and explains the decision to address the research question using mixed methods. I explain the rationale for the research method of using a

cross-sectional, exploratory, sequential mixed methods approach. I also describe the theoretical foundation of this approach and the qualitative and quantitative phases of the study.

This study utilized the explanatory sequential mixed methods study design whereby quantitative data was collected from a broader group of research participants before gathering qualitative data through individual interviews. This research method was selected for the following reasons:

First, the mixed methods approach combines quantitative and qualitative techniques to capitalize on the strengths of both approaches while mitigating their drawbacks (Creswell & Creswell, 2018; Tashakkori & Teddlie, 2010). Aligned with the purpose of my study, mixed methods studies aspire to “measure what can be measured statistically and explore additional meanings through interviews” in order to “integrate in-depth qualitative understandings with broader generalizations” (Patton, 2014, p. 91).

Second, the sequence in which the quantitative and qualitative methods were deployed was an intentional decision defined by the purpose of the study and the available resources. Based on the sequence of approach, there are three core cross-sectional mixed methods designs possible: (a) the convergent design, where both quantitative and qualitative data collection and analysis happen simultaneously; (b) the explanatory sequential design, where the quantitative data is collected prior to the qualitative data, which is then often used to further clarify quantitative data as part of the data analysis; and (c) exploratory sequential design, where the qualitative data is collected first and then often used as the foundation for the design and development of a quantitative tool, followed by data analysis (Creswell & Creswell, 2018; Tashakkori & Teddlie, 2010).

Given the research question at hand, I selected the explanatory sequential design because of the theoretical priority of the conceptual framework of the study which this study aims to contribute to, i.e. self-determination theory (SDT) and socioemotional selectivity theory (SST). Furthermore, a number of quantitative survey instruments that align with the conceptual framework of this study exist and have been validated by scholars, albeit in a different context or audience demographic, such as the Work Extrinsic and Intrinsic Motivation Scale (WEIMS; Tremblay et al., 2009) and the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS; Van der Kaap-Deeder et al., 2020). Utilizing elements of these validated and existing surveys to develop the study's quantitative survey instrument provided an efficient and effective means to collect and codify data from the target research population of older workers to identify salient factors that influence their motivation to work.

I engaged with several content experts as well as a small group of target participants prior to the survey launch to determine face validity and evaluate the efficacy of the instrument in addressing the research question. After collecting and analyzing data from the quantitative surveys, I proceeded with the qualitative phase and conducted individual interviews to expand upon and obtain a deeper understanding of the key factors identified in the survey. This approach aligned with my interest in exploring older workers' highly personalized and detailed examples of their lived experiences in the workplace. Individual interviews can add depth and color to further explain quantitative data because qualitative methods provide "people's subjective interpretations of their experiences, events, and other inquiry domains" (Ravitch & Carl, 2019, p. 10). In particular, I used phenomenology as the theoretical foundation for qualitative study.

Phenomenology focuses on understanding the lived experiences of individuals as a phenomenon, which is not necessarily bounded by space and time (Ravitch & Carl, 2019). In this

paper, the phenomenon under study is the extension of working lives beyond the traditional retirement age. Phenomenology seeks to understand “the meaning, structure, and the essence of the lived experience of this phenomenon for this person or group of people” (Patton, 2014, p. 115). This approach requires phenomenological researchers to utilize the process of bracketing or phenomenological reduction to recognize and put their biases and everyday assumptions outside the brackets so that they can focus on exploring the phenomenon within its brackets (Ravitch & Carl, 2019). In later sections of this chapter, I will address how I implemented bracketing as a phenomenological researcher.

Research Participants

In this section, I outline the participant selection strategy and criteria, sample size determination, and participant recruitment approach for this study.

Participant Selection

The strategy for participant selection in this study was based on a purposeful, criteria-based, maximum variation sampling method, which involved defining the participant criteria and recruiting participants who met the research focus and criteria (Patton, 2014). Purposeful sampling selects “individuals because of their unique ability to answer a study’s research questions” (Ravitch & Carl, 2019, p. 83). Participants corresponded to a convenience sampling population across diverse skillsets and multiple industries to achieve a cross-sectional understanding of older workers and provide an opportunity to gain more insights into issues that are central to this study (Patton, 2014).

The unit of analysis for this study was an individual who fulfill the following three criteria:

- Participants must be aged 62 years or above and live in the United States.
- Participants must currently be employed or have recently left the labor market.

- Participants must be knowledge workers.

First, participants must be aged 62 years or above and live in the United States. This criterion was defined in order to set a similar social and cultural setting for the study, including the perceived norm of retirement age and availability of government- or employer-based benefits. The age of 62 was selected because this is the earliest age at which individuals in the United States can begin collecting government-sponsored Social Security retirement benefits (Social Security Administration, n.d.). This age varies in other countries based on their national pension laws. Moreover, cultural differences among countries can affect how organizations approach an aging workforce (Berg & Piszczek, 2022). For example, phased retirement programs that provide alternatives to abrupt retirement and offer the flexibility to work reduced hours are more common in countries with stronger labor organizations and social policies such as Germany versus countries with weaker labor organizations such as the United States, which tends to attach employment benefits to full-time work (Berg & Piszczek, 2022). Selecting participants from the same country reduces the impact of such macro-level social and political factors in this study.

Second, participants must currently be employed or have worked past age 62 and left the labor market within the past three years. The study focused on the lived experiences of older workers who had chosen to continue to work beyond the traditional retirement age, therefore participants must have work experience during that time. For those who initially met this criterion but had recently stopped working, I selected three years as a reasonable amount of elapsed time in which participants could still recall their work experiences and reflect on them with sufficient detail and accuracy after a discussion with my dissertation chair.

Third, participants must be knowledge workers and predominantly perform knowledge-based work rather than manual labor. As workers increase in age, their likelihood of experiencing significant physical decline and serious health problems that may interfere with their ability to continue working also increases (Bucknor & Baker, 2016). Knowledge-based work was selected because, unlike physically-intensive jobs that often take a toll on the physical health of blue-collar workers as they approach retirement age (Hiesinger & Tophoven, 2019), knowledge-based work has fewer physical constraints for older workers and is more likely to be performed by people of all ages. Moreover, older workers have knowledge accumulated over their decades of experience, which may be advantageous at times in the performance of their work (De Sordi et al., 2021; Hilsen & Olsen, 2021).

The participant selection strategy intentionally did not exclude participants based on organizations, job functions, job levels, education levels, gender, race, or other demographics in an effort to provide a rich cross-sectional set of data for the study. This allowed the data to lead me as a researcher in the subsequent qualitative phase and data analysis phase of the study.

Sample Size Determination

The sample size of a study varies based on the research approach and purpose of the study (Patton, 2014). At the same time, there is recognition that the sample size could be limited by the availability and willingness of older workers to participate during the time frame of the study.

In this research, the quantitative survey phase of the study collected and codified a broad cross-sectional set of data. Therefore, I attempted to reach as many target participants as possible through active recruitment. In discussion with my dissertation chair, the goal was set for at least

100 responses. In total, 165 survey responses were received, of which 124 were unique and complete.

The qualitative phase of the study sought to gather the lived experiences of the participants, particularly on their motivations to work but also inclusive of their feelings and perspectives at work (Patton, 2014). The collection and analysis of qualitative data through interviews can be time-consuming and labor-intensive because it requires the researcher to be present for each interview. Based on the time frame of the study and after careful deliberation with my dissertation chair, a goal was set to interview a minimum of 10 participants as a sample size. This would allow the researcher to gain in-depth contextualized knowledge of the participants' lived experiences and add depth to the survey results. In total, 12 participants were interviewed in the qualitative phase of this study.

Participant Recruitment

Participants for the study were primarily recruited through the mailing lists of the Longevity Project and CoGenerate as well as connections from the researcher's personal and professional network.

The Longevity Project publishes weekly newsletters and supports research and public dialogue to raise awareness of the implications of longer life in partnership with the Stanford Center on Longevity (Longevity Project, n.d.). CoGenerate is a nonprofit based in the United States that encourages multigenerational workforces by bringing people of all ages together to solve problems and build the future (CoGenerate, n.d.). CoGenerate launched the Encore Fellowships program in 2009 to “match seasoned professionals with social impact organizations to boost nonprofit capacity, build strong multigenerational teams, and give people seeking encore careers an introduction to the nonprofit sector” (CoGenerate, n.d., para. 1). Each year, roughly

100 fellows join the program. I met the President of the Longevity Project and the co-CEO of CoGenerate in the early phase of my dissertation when I made several attempts to contact organizations that focus on the older population, such as the American Association of Retired Persons (AARP) and the Stanford Center on Longevity. Among the different organizations I contacted, CoGenerate and the Longevity Project were best-matched with the research study in terms of mission alignment and access to target research participants.

I also recruited participants by posting an announcement with the survey link on a LinkedIn post and also reached out to my personal and professional network via email with a description of the study and the survey link, which they could forward to their network.

Participation in the study was completely voluntary. Survey respondents could choose to not complete the survey or to withdraw from the study at any time during the data collection phase. The survey tool also reiterated the criteria for participating in the study to determine their eligibility to participate in the study. Furthermore, surveys with less than 80% completion rate were excluded from the study. Personally identifiable information such as names and email addresses were also not automatically collected. However, participants were given the option to provide consent and share their names and contact information at the end of the survey for the purpose of participating in the next phase of the study which consisted of individual interviews.

Participation in individual interviews was also voluntary and self-selected through one of the questions in the quantitative survey asking if they would be willing to be interviewed for at most an hour via Zoom. If they were willing to participate in the qualitative interviews, they could provide their contact information for scheduling purposes. However, participants could also choose to decline and not share their contact information. They could also choose to not

answer any questions during the interview or to withdraw from the study at any time during the data collection phase.

Because more than the target number of interview participants provided their consent to be interviewed and shared their name and contact information in the survey, an equal number of male and female participants were randomly selected through an online random generator tool in Excel.

Data Collection

This section outlines the research instruments to be used in data collection as well as the data collection approach. I start with the quantitative phase, then the qualitative phase. I also discuss the validity and reliability of the approach.

Quantitative Instruments

The process for data collection in the quantitative phase involved designing and deploying an online survey through Qualtrics. This process began with identifying existing survey instruments that address the purpose of the study and confirming their efficacy. Existing pre-validated survey instruments that align with the theoretical framework of the study included the Work Extrinsic and Intrinsic Motivation Scale (WEIMS; Tremblay et al., 2009), which had been cited in almost 1,000 studies and deemed a valid and reliable instrument for work motivation, and the Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS; Van der Kaap-Deeder et al., 2020), which has been translated into more than 14 languages and has appeared in over 700 studies on Google Scholar as of August 2023. Both survey instruments have been tested for applicability and validity in different work environments and evaluated for their factorial structure and psychometric properties, although they have rarely been used to

study older workers in their 60s and 70s (Tremblay et al., 2009; Van der Kaap-Deeder et al., 2020).

In addition to selecting questions from the above-mentioned pre-existing survey instruments that are aligned with the study's theoretical framework, the study also collected respondents' demographic data and other pertinent work-related information, including gender, ethnicity, education level, birth year, employment status, work industry, level/role at work, and anticipated retirement age. I collated all questions into one survey and customized the survey to the extent needed for the study.

The survey was designed to take less than 15 minutes to complete. It was developed and delivered in an electronic format via a URL using Qualtrics. The first page of the online survey provided an overview of the study and asked for the participants' consent for the use of the answers they provided as part of the study. The last page of the online survey invited and asked for their consent to participate in an interview if selected. Details of the survey administered as part of this study can be found in Appendix A. Apart from the demographic and open-ended questions, the survey mostly contained Likert-type questions ranging from a score of 1 (Strongly Disagree) to 5 (Strongly Agree), which allowed individual responses to be compared against the mean of all participants. Finally, a spreadsheet was then generated from Qualtrics with the individual responses of participants for data analysis.

Qualitative Instruments

The process for data collection in the qualitative phase primarily involved semi-structured interviews. Twelve individual 60-minute interviews with transcripts and researcher notes were completed online. The process included two initial interviews that enabled me to evaluate and clarify the prepared interview questions and to practice my skills as a

phenomenological interviewer, including the way I ask questions, read the nonverbal signs of the participants, and manage time.

During the interview, I began the session by describing the study and reiterating the study's confidentiality protocols and their rights to skip questions or end the interview at any time. These are best practices recommended to increase participants' trust in the interview process (Ravitch & Carl, 2019). I also used an open-ended inquiry method to obtain a broader range of understanding of the factors that influence the motivation of older workers to continue to work, with the rationale that such an approach provides a way to expand upon, rather than reiterating or shallowly accepting established conclusions of, a phenomenon (Patton, 2014).

I used a semi-structured interview protocol with five primary questions, including:

- Tell me about your work. What would a typical day or week look like for you?
- What motivates you to continue to work?
- What's true in your life that supports and allows you to continue to work?
- What, if any, has your organization done to accommodate or make it easier for you to continue to work?
- What challenges have you encountered as you continue to work?

I also asked additional probing questions when warranted as detailed in Appendix B. The interviews were conducted over Zoom to allow participants from anywhere in the United States to participate in the study. With the participants' permission, I used the built-in recording and transcription functionalities in Zoom and a cloud subscription with Otter.ai to record the session and generate transcripts of the interview. I also took comprehensive handwritten notes and captured nonverbal indicators such as the facial expressions of the participants during the interview.

Validity and Reliability

The privacy and safety of the participants are valid and important considerations for researchers. Therefore, I created a document for potential participants that includes a description of the study, the selection criteria, the risks and benefits of participation, their privacy rights, and other rights such as voluntary participation to ensure they are fully informed. Before launching the survey, I engaged with content experts, my dissertation committee, and a small group of pilot participants from the target population to determine the face validity of the survey instrument and clarify and finalize the constructs to include in the survey.

Furthermore, participants have been deidentified in reporting all findings from the study. This primarily applied to the individuals who participated in the qualitative study wherein I am aware of the participants' names and contact information as part of the process of conducting the individual interviews. They were each given a code name as soon as the interview was completed. Files were password-protected as well.

One of the risks of qualitative studies that are phenomenological is that of researcher bias (Patton, 2014). Phenomenology requires researchers to utilize the process of bracketing so that the focus of the study stays in the brackets and the researchers identify their biases and everyday assumptions and cast them outside the brackets (Ravitch & Carl, 2019). To mitigate researcher bias, I engaged in dialogic engagement exercises with other researchers and wrote reflexivity memos during the research process to reflect on the research experience and identify any biases and assumptions I may have had during the process (Ravitch & Carl, 2019). Furthermore, during the interview process, I engaged in member checking by asking participants to repeat and confirm the accuracy of their statements as a validation method to ensure the accuracy of the data I gathered from the participants.

Data Analysis

Data analysis consisted of the analysis of quantitative survey data using statistical techniques, the thematic coding and analysis of qualitative survey data and interview transcript data, and the triangulation of results from both quantitative and qualitative data.

Quantitative Data Analysis

The quantitative survey data underwent statistical analysis using Excel and SPSS (v. 29) to identify patterns, correlations, descriptive statistics, and largely non-parametric statistical tests. Due to the ordinal nature of the quantitative data, tests were conducted to determine whether the data was distributed in a normal, Gaussian distribution.

The descriptive statistics calculated for both the BPNSFS and WEIMS measures include the range (the difference between the highest and lowest scores), mean, median, standard deviation, variance, skewness, and kurtosis. Skewness is “a measure of the asymmetry of the distribution of a variable” (H. Kim, 2013, p. 52), i.e., skewness indicates how spread out the data is. In comparison, kurtosis is “a measure of the peakedness [*sic*] of a distribution” (H. Kim, 2013, p. 53), i.e., it indicates how the data may come to a “point.”

Non-parametric statistical tests were also conducted on the data using the SPSS software tool. The Shapiro-Wilk test was initially performed to measure the normality of the data set. After verifying that the data set did not have a normal distribution, the Kruskal-Wallis test for variance was performed with post-hoc analysis, using an adjusted significance level of less than 0.05. The post-hoc analysis was conducted with a Bonferroni correction, which allows the use of repeated measures while reducing a Type 1 error or false positive finding. A Kruskal-Wallis test examines groups in a pairwise fashion to determine statistically significant differences between groups on an independent variable, similar to an ANOVA but without requiring normalized data

(Noguchi et al., 2020). In this study, these pairwise comparisons consisted of demographic groups and the BPNSFS measures as well as demographic groups and the WEIMS measures collected from the quantitative surveys.

In addition, the Kendall Tau test for correlation was performed in SPSS between the measures from the BPNSFS and WEIMS questions to observe how the individual measures for the BPNSFS and WEIMS might move together. The Kendall Tau was used in this study due to its perceived higher robustness for ordinal data (de Winter et al., 2016; Nikitina & Chernukha, 2023). As a result, I was able to identify statistically significant findings based on survey data collected, which contributed to the findings of the research study.

Qualitative Data Analysis

Qualitative interview data underwent in-depth coding using both inductive and deductive thematic analysis in the Atlas TI qualitative software tool. I then integrated the two types of qualitative analysis to identify a unified coding framework for analyzing and surfacing the findings of the qualitative study. Collecting and codifying data in several forms using a methodological approach is a common way to triangulate data, which increases the reliability and validity of the study results (Ravitch & Carl, 2019).

I began with inductive coding because it does not assume a hypothesis that needs to be proven. Instead, the meaning of the data is derived from the data in the process of inductive coding, where codes are created by the researcher using the participants' own words as the researcher goes through the data in an iterative manner to first analyze and then synthesize the data (Ravitch & Carl, 2019). Once all the codes were created, I categorized the codes to group them into similar categories to provide insights into patterns and identify themes within the data.

Inductive coding requires the researcher to identify and set aside their biases and approach the data with an open mind (Ravitch & Carl, 2019).

On the other hand, deductive coding entails creating a set of codes before the analysis of data based on conceptual frameworks and theoretical models from existing literature (Ravitch & Carl, 2019). I used this top-down approach that examined existing theories and models, including self-determination theory (SDT), socioemotional selectivity theory (SST), and Erikson's lifespan developmental theory, to create codes that were then linked to the qualitative data. Completing the inductive coding process before the deductive coding process ensured that the participants' voices were brought forward and respected during the deductive coding process. I then compared the two types of qualitative analysis and merged the two sets of data into one unified coding framework to ensure a thorough mapping and understanding of the data.

Triangulation of the data was then performed by identifying overlaps and differences between the quantitative and qualitative results to integrate, cross-check, and verify the findings of the study. I compared and contrasted the survey data on older workers' demographics and motivational factors with interview data on older workers' perceptions of their work motivations. As a final step, I connected the results of the quantitative survey with the results of the qualitative interview data to integrate and validate the findings from multiple sources.

This mixed methods study combined quantitative and qualitative data analysis to address different aspects of the research question with enhanced validity by exploring the motivations of older workers to continue to work in their 60s and beyond from different sources.

Conclusion

This chapter covered the research methodology and design and provided justification for the various methodology decisions made, including research questions, participant selection and

recruitment, data collection, and data analysis. An explanatory sequential mixed methods approach was used whereby a quantitative survey is created to collect a rich cross-sectional set of data that forms the basis for creating the interview questions and selecting the participants for the qualitative phase of the study. Statistical analysis and thematic analysis were conducted to analyze the data and generate findings that can add to the study's theoretical framework. As a researcher, I employed validation strategies, including journaling, writing reflexivity memos, and engaging in dialogic engagement exercises to recognize and put aside my everyday assumptions and mitigate researcher bias and other validity threats to produce research that is both valid and reliable.

CHAPTER 4: RESULTS

Age is an issue of mind over matter.

If you don't mind, it doesn't matter.

—Mark Twain

The previous chapter described the research methodology and mixed-methods approach of this study. In this chapter, I present the results of the data collected from surveying older workers and interviewing a subset of these workers, utilizing both quantitative and qualitative research methods. The next chapter will detail my interpretation of the data and identify key findings of the study.

This chapter contains three main sections: (a) an overview of the research study methodology and participant selection, (b) a descriptive narrative of the data collected in the study, and (c) the integrated analysis of data using a mixed methods approach, including the quantitative data analysis of the survey measurements and the coding and findings from the qualitative interviews with older workers, in response to the research question of the study.

Overview of the Research Study

This study used a systems perspective to investigate the motivations of older workers to continue to work, starting with individual core motivations and extending to the role of organizational, environmental, and societal factors in influencing those individual motivations. The mixed methods research methodology was designed to address the gaps that exist in current literature on older workers in their 60s and 70s and to answer the primary research question for this study, which was:

Research Question: What do older workers identify as factors that influence their motivation to continue to work beyond the traditional retirement age?

With this research question in mind, I used both quantitative statistical analysis and qualitative thematic analysis on the collected survey data and interview data respectively. The results of these analyses are presented in this chapter.

Overview of Data Collection Methodology

Data collection for this research consisted of two phases. The first phase was the collection of quantitative data through a survey. The survey collected 10 items of demographic information and included 51 Likert-based questions and 1 open-ended question related to work motivation. Demographic information included gender, ethnicity, education level, household size, year of birth, employment status, industry of employment, level/role at work, title, and anticipated retirement age. Likert-based questions included items that were based on the pre-validated Work Extrinsic and Intrinsic Motivation Scale (WEIMS) and Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) survey tools as well as questions pertaining to concepts from Socioemotional Selectivity Theory (SST; Carstensen, 1993, 2006) and Adult Developmental Theory (Erikson, 1959, 1963) such as Future Time Perspective (FTP) and generativity. Details of the administered survey can be found in Appendix A.

The second phase of the study consisted of individual one-hour interviews over Zoom with a semi-structured interview protocol using open-ended questions that delved deeper into their motivations to work. Details of the interview protocol can be found in Appendix B.

Overview of Research Participants

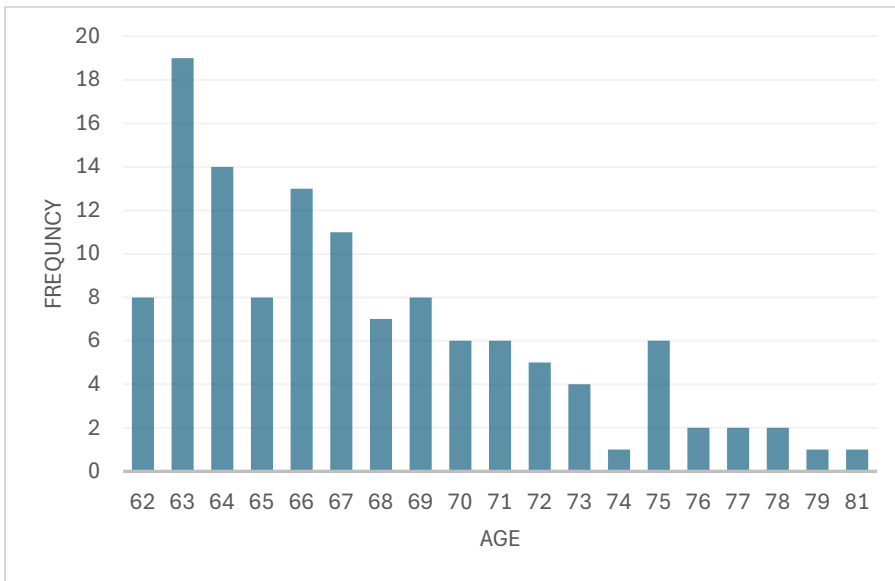
Study participants were eligible to join the study if they met the following three criteria: (a) must be aged 62 years or above and live in the United States, (b) must be knowledge workers (in contrast with physically intensive manual labor workers), and (c) must be currently employed or must have left the labor market in the past three years.

Participants were recruited across the United States by sharing the survey URL through the mailing lists of the Longevity Project (n.d.) and CoGenerate (n.d.), along with a LinkedIn post, which was then shared and reposted by my network to their professional network. A total of 165 responses were received. However, only 124 responses were included in this study after I removed responses that were invalid or less than 80% completed. Thus, this study had an n = 124, from which 12 participants were selected to be interviewed.

All the 124 valid survey responses were from older workers between 62 and 81 years of age. Among the valid respondents, 40% were aged 62 to 65, 36% were between 66 and 70 years of age, 18% were between 71 and 75 years of age, and the remaining 7% were aged 76 and above. The detailed age breakdown of survey participants is shown in Figure 3.

Figure 3

Frequency of Study Participants' Ages



The demographic information of the study participants can be found in Table 1. More females than males participated in the study (61% in contrast with 37%). In terms of ethnicity, 80% of

the respondents identified as White or Caucasian, and 11% identified as Black or African American. The rest included Asians, American Indians, Latinx, and Other/Prefer not to say. All participants had pursued studies beyond high school, although the respondents were skewed toward higher education levels.

Table 1

Demographic Information of Study Participants

Variable	Survey respondents		Interviewed older workers	
	<i>n</i> = 124	%	<i>n</i> = 12	%
Age group				
62–65	49	40%	5	42%
66–70	45	36%	2	17%
71–75	22	18%	4	33%
76–80	7	6%	1	8%
81+	1	1%	-	-
Gender				
Male	46	37%	6	50%
Female	76	61%	6	50%
Prefer not to say	2	2%	-	-
Ethnicity (may select more than one)				
White or Caucasian	99	80%	9	75%
Black or African American	14	11%	2	17%
American Indian/Native American or Alaska Native	1	1%	1	8%
Asian	8	6%	1	8%
Other/prefer not to say	4	4%	1	8%
Highest education level				
Graduate or professional degree	71	57%	7	58%
Bachelor’s degree	43	35%	5	42%
Associate’s or technical degree	3	2%	-	-
Some college, but no degree	7	6%	-	-
High school diploma or GED	-	-	-	-

The majority of the respondents have advanced graduate degrees (57%) or bachelor’s degrees (35%). The subset of 12 participants interviewed roughly mirrored the distribution of the

broader survey respondents' population distribution. Interviewees were equally distributed across genders with six males and six females. Among the interviewed older workers, 75% identified as White or Caucasian, and 17% identified as Black or African American; 58% earned graduate degrees, and 42% held bachelor's degrees, thereby roughly reflecting the distribution of this study's participant population.

Employment-related demographic information of the study participants was also collected, as shown in Table 2. This included their employment status, the sector they most recently worked in, and their level or role in the organization. For the breakdown of employment status, 42% of survey respondents were working full-time in an organization whereas 23% were retired. The remaining participants were self-employed (15%), working part-time (10%), actively seeking employment (5%), or did not identify with any of the above choices (5%, e.g., graduate student, or considering retirement as their job search did not yield steady employment). On the other hand, 50% of the interviewed participants were working full-time whereas 33% of them were retired. The rest were self-employed or working part time.

For the breakdown of industry sectors, more than half of the survey respondents worked in private industry (55%), which was defined in the survey as including tech, services, finance, sales, nonprofits, etc. The remaining 45% worked in the government or public sector (12%), academia (13%), healthcare (7%), or self-identified as "other" (13%). Examples of "other" industries declared in the survey were journalism, legal profession, and consulting. Among the 12 interviewed participants, five were in the private sector (42% whereas three worked in government or the public sector (25%). The remaining four were from healthcare (17%), academia (8%) and other/consulting (8%).

Table 2*Employment Information of Study Participants*

Variable	Survey respondents		Interviewed older workers	
	<i>n</i> = 124	%	<i>n</i> = 12	%
Employment status				
Working full-time	52	42%	6	50%
Working part-time	13	10%	1	8%
Self-employed	18	15%	1	8%
Seeking employment	6	5%	-	-
Retired	29	23%	4	33%
Other (e.g., in transition)	6	5%	-	-
Sector				
Government or public sector	15	12%	3	25%
Academia	16	13%	1	8%
Healthcare	9	7%	2	17%
Private industry	68	55%	5	42%
Other	16	13%	1	8%
Role/level at work				
Executive	30	24%	3	25%
Mid-to-senior management	26	21%	1	8%
Front-line management	15	12%		
Individual contributor	53	43%	8	67%

For the breakdown in role or level at work, 43% of survey respondents worked as individual contributors whereas 24% were in executive positions and 33% were in middle management, either mid-to-senior management (21%) or front-line management (15%). Among the 12 interviewed participants, eight were individual contributors (67%) and three were executives (25%). Only one was in middle management; however, at least half of the interviewees who identified as individual contributors had previously held mid-management positions before transitioning to individual contributor roles in their later career stages, thereby bringing forth their perspectives from being in middle management as well as their roles as individual contributors.

The group of study participants reflected a cross-sectional sampling of the target population in line with the study's intention of purposefully recruiting a diverse group of older workers. The diversity in gender and work history across different sectors among the study participants was purposeful in addressing the research focus and criteria of this study.

Quantitative Data Analysis and Results

This section discusses the quantitative analysis of the survey data, including data classification and statistical test results. I first describe the survey instrument administered in the study, then discuss how I prepared the data for analysis. I then cover the results of the descriptive statistics and the Kruskal-Wallis tests for variance to identify which variables to focus on. Finally, I examine the results of the Kendall Tau tests for correlation of key variables.

Survey Instrument

As mentioned in the previous section, the survey used in this study collected 10 items of demographic information and included 51 Likert-based questions and 1 open-ended question related to work motivation (see Appendix A). Two primary instruments were used in the survey: The Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) and the Work Extrinsic and Intrinsic Motivation Scale (WEIMS), which are both pre-validated instruments, with multiple individual measures based on Self-Determination Theory (Tremblay et al., 2009; Van der Kaap-Deeder et al., 2020).

The BPNSFS has 24 items that measure the three basic psychological needs' satisfaction and frustration scores: Autonomy Satisfaction (AS), Autonomy Frustration (AF), Competence Satisfaction (CS), Competence Frustration (CF), Relatedness Satisfaction (RS), and Relatedness Frustration (RF). On the other hand, WEIMS provides additional scores measuring the six different motivational constructs of SDT: Intrinsic Motivation (IM), Integrated Motivation

(INTEG), Identified Motivation (IDEN), Introjected Motivation (INTRO), External Regulation (EXT), and Amotivation (AMO).

Data Preparation

Data was prepared for analysis by removing incomplete and invalid responses, resulting in a total of 124 study participants. In addition, age was recoded into a categorical variable (60–65→1, 66–70→2, 71–75→3, 76–80→4, 81–85→5, 86–90→6) for analysis. The last two age groups (5 and 6) were filtered out because of their small sample size ($n = 1$, $n = 0$, respectively). Similarly, the participants' anticipated retirement age, i.e., the age they intend to retire or fully stop working for pay, was recoded into the following categories for analysis: 62–63→1, 64–68→2, 69–73→3, 74–78→4, 79–83→5, 84–85→6, no specific age, e.g., “for as long as my current company allows me to!”→98 and “for as long as I am able to work!”→99. Finally, household size was recoded into the following categories: 1–2→1, 3–4→2, 5–6→3, 7–8→4. However, the last two groups (Groups 3 and 4) were excluded from the analysis when examining this variable due to their small sample size ($n = 1$). A summary of the recoded categories of study participants can be found in Table 3. The quantitative survey data consisting of 124 survey responses was loaded into and analyzed using Excel and IBM SPSS version 29 desktop version. This enabled the completion of an Exploratory Factor Analysis (EFA) and the examination of data for parametric statistical analysis and non-parametric statistical analysis.

Table 3*Recoded Categories of Study Participants (n = 124)*

Recoded variable groups	<i>n</i> = 124	Survey respondents
		%
Age group		
62–65	49	40%
66–70	45	36%
71–75	22	18%
76–80	7	6%
81+	1	1%
Anticipated retirement age		
62–63	9	7.3%
64–68	30	24.2%
69–73	30	24.2%
74–78	10	8.1%
79–83	4	3.2%
84+	4	3.2%
No specific age, “for as long as I am able to work!” (coded as 99) or “for as long as my company allows me to!” (coded as 98)	37	29.8%
Household size (including self)		
1–2	99	80%
3–4	23	19%
5–6	1	1%
7–8	1	1%

Parametric Versus Non-Parametric Analysis

Although some demographic data such as gender and ethnicity are nominal variables, the majority of the demographic data (e.g., age and level of education) and all Likert-based scales are, in the strictest sense, ordinal in nature (i.e., there is an order or hierarchy in the data values; N. J. Salkind, 2017). At the same time, the data collected was not distributed in a normal

(Gaussian) distribution. Therefore, quantitative data for this study was examined using largely non-parametric statistical tests.¹

This decision was reinforced when initial analyses of the data were completed with a parametric ANOVA's homogeneity of variance (HOV). The results of the HOV indicated that the data did not meet the standards necessary for an ANOVA, thereby confirming that the research data would best be analyzed with non-parametric statistical tests.

As discussed previously in the Overview of Research Participants and the Data Preparation sections, the grouping variables examined for this study were Recoded Age, Recoded Anticipated Retirement Age, Recoded Household Size, Gender, Ethnicity, Education, Industry, and Level/Role in their organization. Dependent variables were outcome scores from the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) and the Work Extrinsic and Intrinsic Motivation Scale (WEIMS) (Tremblay et al., 2009; Van der Kaap-Deeder et al., 2020).

Exploratory Factor Analysis

Before I discuss the results of the BPNSFS and WEIMS measures in the following sections, it should be noted that other questions that are related to Future Time Perspective (FTP) and workplace support were included in the original survey. The desire was to incorporate an additional instrument to provide further insight into the participants' perceptions of their workplace environment. However, upon communicating with the developers of the FTP instrument, it was found that an updated version was being developed due to a need for increased

¹ Statistical analysis was conducted in consultation with Dr. David Cambridge for assistance in identifying the appropriate non-parametric statistical tests needed, applying them for this study, and understanding the statistical results.

validity. Unfortunately, the updated version was being submitted for publishing and therefore not yet available at the time of my study. Furthermore, three questions were evaluated for an Exploratory Factor Analysis (EFA) or a Confirmatory Factor Analysis (CFA). The underlying latent variable was theorized to be how employees feel about their work environment (i.e. workplace support).

Data was tested for compatibility of an EFA or CFA using a Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity. Both are measures of suitability of data for Factor Analysis, in which a KMO closest to 1 and a significance score less than 0.05 for Bartlett's Test of Sphericity are ideal (Humble, 2020). However, the results of the KMO yielded a value of 0.652, which did not meet the accepted threshold of 0.7, although Bartlett's significance did meet the criteria.

An additional measure used to evaluate the validity of the items was the Kaiser Criterion, whereby all components with eigenvalues less than 1.0 are dropped (Humble, 2020). The eigenvalues of those items were all below 0.92 (see Appendix C) and therefore, did not meet the Kaiser Criterion. Given the lack of an appropriate KMO and the below accepted levels for eigenvalues, it was determined that the data did not point toward an underlying latent variable.

As a result, it was determined that it was best to exclude this data from the current analysis. It is also anticipated that after the release and validation of the updated version of the FTP Scale (Rohr et al., 2017), the FTP instrument can be used in later research in this area of study.

Descriptive Statistics

Descriptive statistics were calculated for both the BPNSFS and WEIMS questions. These include the range (highest score–lowest score), minimum, maximum, mean, median, standard

deviation, and variance. The results for the BPNSFS measures are shown in Table 4. Participants in this study reported that, among the six BPNSFS variables, their competence satisfaction (CS) scores had the highest mean scores at 4.46 out of 5.0 rating scale. They also reported the lowest mean scores for competence frustration (CF) at 1.78. These results indicated relatively high levels of self-confidence in their skills and capabilities to work. On the other hand, relatedness satisfaction (RS) had a mean score of 4.00 whereas relatedness frustration had a mean score of 1.89. The mean scores for autonomy satisfaction (AS) and autonomy frustration (AF) were 3.84 and 2.28 respectively, indicating lower levels of satisfaction in their sense of autonomy at work.

Table 4

Descriptive Statistics for BPNSFS Test Measures

Variable	Range	Min	Max	Mean	Median	Std. deviation	Variance
Autonomy Frustration (AF)	4.00	1.00	5.00	2.28	2.00	.887	.787
Autonomy Satisfaction (AS)	3.50	1.50	5.00	3.84	4.00	.709	.502
Competence Frustration (CF)	3.25	1.00	4.25	1.78	1.75	.718	.516
Competence Satisfaction (CS)	2.00	3.00	5.00	4.46	4.50	.491	.242
Relatedness Frustration (RF)	3.75	1.00	4.75	1.89	1.75	.722	.521
Relatedness Satisfaction (RS)	4.00	1.00	5.00	4.00	4.00	.771	.594

The descriptive statistics for the WEIMS measures are shown in Table 5. Participants in this study reported the highest mean scores for intrinsic motivation (IM) at 4.23 out of a 5.0 rating scale and the lowest mean scores for amotivation (AMO) at 1.60, suggesting that the older workers in this study were more intrinsically motivated rather than amotivated.

Table 5*Descriptive Statistics for Work Extrinsic and Intrinsic Motivation Scale (WEIMS)*

Variable	Range	Min	Max	Mean	Median	Std. deviation	Variance
Amotivation (AMO)	2.5	1.0	3.5	1.60	1.50	.6407	.410
External Regulation (EXT)	4.0	1.0	5.0	3.43	3.50	.9114	.831
Introjected Motivation (INTRO)	4.0	1.0	5.0	3.19	3.00	1.031	1.063
Identified Motivation (IDEN)	4.0	1.0	5.0	3.57	3.50	.9136	.835
Integrated Motivation (INTEG)	3.0	2.0	5.0	4.01	4.00	.7113	.506
Intrinsic Motivation (IM)	4.0	1.0	5.0	4.23	4.00	.7818	.611

In addition, both skewness and kurtosis were calculated for both sets of BPNSFS and WEIMS questions as shown in Table 6. Together, these two measures indicate how similar or dissimilar a set of data is to a normal (Gaussian) distribution. Initial results indicated a non-normal distribution of the data set. However, these scores can be difficult to directly interpret; therefore, additional tests of normality were conducted. Both the Kolmogorov-Smirnov (K-S) and the Shapiro-Wilk (S-W) tests examine the normal distribution of data. Although the K-S was originally designed for samples with more than 50 subjects and the S-W was designed for samples with 50 or fewer subjects, recent modifications of the S-W have enabled it to test up to 2,000 subjects (Mishra et al., 2019). Therefore, I also reviewed both the K-S and S-W test results of the BPNSFS and WEIMS variables, which can be seen in Appendix C. All tests yielded statistically significant results indicating that the data set did not have a normal distribution, thereby confirming that non-parametric testing is the most appropriate for the quantitative analysis of this study.

Table 6*Skewness and Kurtosis Scores for BPNSFS and WEIMS Measures*

Variable	Skewness		Kurtosis	
	Statistic	Std. error	Statistic	Std. error
Autonomy Frustration (AF)	.649	.217	-.146	.431
Autonomy Satisfaction (AS)	-.639	.217	.596	.431
Competence Frustration (CF)	.911	.217	.654	.431
Competence Satisfaction (CS)	-.531	.217	-.399	.431
Relatedness Frustration (RF)	1.165	.217	1.658	.431
Relatedness Satisfaction (RS)	-1.236	.217	2.173	.431
Amotivation (AMO)	.746	.217	-.325	.431
External Regulation (EXT)	-.588	.217	.004	.431
Introjected Motivation (INTRO)	-.279	.217	-.403	.431
Identified Motivation (IDEN)	-.580	.217	.400	.431
Integrated Motivation (INTEG)	-.370	.217	-.155	.431
Intrinsic Motivation (IM)	-1.238	.217	2.055	.431

In summary, the statistical results of the quantitative survey data established that non-parametric scores are indicated for both BPNSFS and WEIMS measures, therefore non-parametric tests are well-suited for this study.

Kruskal-Wallis Non-Parametric Analysis of Variance

The Kruskal-Wallis non-parametric test for variance was used in this study to analyze data in categories and measure the overall difference between two or more independent groups (N. J. Salkind, 2017). A Kruskal-Wallis test examines groups in a pairwise fashion to determine statistically significant differences between groups on an independent variable, similar to an ANOVA but without requiring normalized data (Noguchi et al., 2020).

Each demographic group, also referred to as “subgroup” in this paper, was tested both in entirety and with adjusted alpha-levels for pairwise comparison with each dependent variable. As previously mentioned, the dependent variables in this study included the six measures in the Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) for needs satisfaction and frustration of autonomy (AS, AF), competency (CS, CF), and relatedness (RS, RF) as well as the six motivational constructs of self-determination theory (SDT) measured in the Work Extrinsic and Intrinsic Motivation Scale (WEIMS), ranging from non-self-determined amotivation (AMO), external regulation (EXT), and introjected (INTRO) motivation to the more autonomous and self-determined motivation constructs of identified (IDEN), integrated (INTEG), and intrinsic (IM) motivation. On the other hand, demographic groups tested were Recoded Age, Recoded Anticipated Retirement Age, Gender, Ethnicity, Level of Education, Recoded Household Size, Industry Sector of Work, and Level/Role in the organization.

Adjusted significance levels less than 0.05 were considered significant for this study. It is important to note that the Kruskal-Wallis test can only indicate that at least one of the demographic subgroups has a potentially significant variable distribution. It is unable to identify which the specific demographic subgroup(s), thereby requiring subsequent pairwise comparisons with Bonferroni corrections to be performed (N. Salkind, 2007).

In the sections below, I present the results of the Kruskal-Wallis tests, followed by pairwise comparisons with a Bonferroni correction when warranted for statistically significant findings. The Bonferroni correction was necessary to account for repeated measures, such as when the pairwise comparison may reveal significant findings between groups that were not apparent when examining the larger aggregate comparison (Armstrong, 2014). I first present the

Kruskal-Wallis test results for the BPNSFS measures, followed by the Kruskal-Wallis test results for the WEIMS measures.

BPNSFS Measures

To determine potential relationships between the responses to the BPNSFS measures and the participants’ demographic information, I applied a Kruskal-Wallis test, comparing each of the six BPNSFS measures (AF, AS, CF, CS, RF, RS) with the demographic variables listed in the prior section.

The Kruskal-Wallis test results showed that select BPNSFS measures, namely AS, AF, and RF, had potential statistically significant differences with select subgroups of Recoded Anticipated Retirement Age, Industry Sector, and Level/Role in the organization (see Table 7). These results were subsequently verified using pairwise comparisons with a Bonferroni correction (see Table 8). However, there were no statistically significant differences between the subgroups of Recoded Age, Gender, Ethnicity, Level of Education, and Recoded Household Size for BPNSFS measures. Detailed tables of the test results generated in SPSS can be found in Appendix C.

Table 7

Statistically Significant Differences Kruskal-Wallis Test Results for BPNSFS Measures

BPNSFS variable		Demographic group	Sig. ^{a,b}
Autonomy Frustration (AF)	–	Anticipated Retirement Age	.001***
Autonomy Frustration (AF)	–	Industry Sector	.027*
Autonomy Satisfaction (AS)	–	Level/Role	.006**
Relatedness Frustration (RF)	–	Anticipated Retirement Age	.007**

Note. a. The significance level is .050. b. Asymptotic significance is displayed.
*Sig.< 0.05 **Sig.< 0.01 ***Sig.< 0.001

Building upon the results of the initial Kruskal-Wallis tests which identified the variables and demographic subgroup pairings to focus on (AF, AS, RF and Anticipated Retirement Age, Industry Sector, Level/Role), a pairwise comparison with a Bonferroni correction was subsequently performed to account for repeated measures and verify statistically significant differences between subgroups that have a significance level below 0.05. For example, AF and RF mean scores were paired with recoded anticipated retirement age subgroups, which included the subgroup for those who plan to work “for as long as my current company allows me to!” (recoded as 98.00) and “for as long as I am able to work!” (recoded as 99.00). Similarly, pairwise comparisons with a Bonferroni correction were performed for the means of AF among the five industry sectors (Government, Academia, Healthcare, Private, and Other) and the four levels in an organization defined in this study: (1) executive (EXEC), (2) mid-to-senior management (MSM), (3) front-line management or team lead (FLM), and (4) individual contributor (IC). Statistically significant results are listed in Table 8.

Statistically significant differences in the distribution of the AF, AS, and RF mean scores were found between those who plan to work for as long as possible (subgroup 99 in Anticipated Retirement Age) and those who plan to retire between ages 64 and 68, which is within close range of the traditional retirement age in the United States. These results indicate how the sense of autonomy and relatedness could influence the intention and motivation of older adults to extend their working lives.

Table 8*Statistically Significant Pairwise Comparisons With Bonferroni Correction for BPNSFS**Measures*

BPNSFS variable	Demographic group	Subgroup pairing	Adj. Sig. ^a
AF	Anticipated Retirement Age	[64–68] – [99]	0.000***
AF	Anticipated Retirement Age	[64–68] – [69–73]	0.025*
AF	Level/Role	Executive – Front Line Management	0.017*
AF	Level/Role	Executive – IC	0.017*
AF	Industry Sector	Other – Government	0.043*
AS	Anticipated Retirement Age	[64–68] – [99]	0.038*
RF	Anticipated Retirement Age	[64–68] – [99]	0.001***

Note. Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

*Sig.< 0.05 **Sig.< 0.01 ***Sig.< 0.001

Work Extrinsic and Intrinsic Motivation Scale Measures

Similar to the BPNSFS scores, the WEIMS-related mean scores were measured using a Kruskal-Wallis with subsequent pairwise comparisons using a Bonferroni correction when warranted. As previously mentioned, the dependent variables from the WEIMS were the six motivational constructs of SDT: amotivation (AMO), external regulation (EXT), introjected motivation (INTRO), identified motivation (IDEN), integrated motivation (INTEG), and intrinsic motivation (IM). Each dependent variable was compared with demographic information collected in the study, namely Recoded Age, Recoded Anticipated Retirement Age, Gender, Ethnicity, Level of Education, Recoded Household Size, Industry Sector, and Level/Role in the organization. The detailed results of these tests are in Appendix D.

Select WEIMS measures, namely AMO, IM, and INTEG, showed statistically significant differences in at least one subgroup of Recoded Anticipated Retirement Age, Industry Sector, and Level/Role in the organization as shown in Table 9, which were subsequently analyzed and verified using pairwise comparisons with a Bonferroni correction (see Table 10).

Table 9

Statistically Significant Differences Kruskal-Wallis Test Results for WEIMS Measures

WEIMS variable	Demographic group	Sig. ^{a,b}
Intrinsic Motivation (IM)	– Anticipated Retirement Age	<.001***
Intrinsic Motivation (IM)	– Level/Role	.006**
Amotivation (AMO)	– Anticipated Retirement Age	.009**
Amotivation (AMO)	– Industry Sector	.015*
Integrated Motivation (INTEG)	– Level/Role	.012*

Note. a. The significance level is .050. b. Asymptotic significance is displayed.

*Sig. < 0.05, **Sig. < 0.01, ***Sig. < 0.001

WEIMS = Work Extrinsic and Intrinsic Motivation Scale.

The Kruskal-Wallis test showed that no statistically significant differences existed between the subgroups of Recoded Age, Gender, Ethnicity, Level of Education, and Recoded Household Size for the WEIMS measures. Although an initial Kruskal-Wallis test result indicated that there are differences between the means of IDEN measures for certain ethnicity/race groups, subsequent pairwise comparisons with Bonferroni correction resulted in adjusted significance levels that indicated otherwise. Therefore, no significant differences in the means of WEIMS measures occurred among ethnicity/race groups in the study data set.

Table 10*Statistically Significant Pairwise Comparisons With Bonferroni Correction for WEIMS**Measures*

WEIMS variable	Demographic group	Subgroup pairing	Adj. Sig. ^a
IM	Anticipated Retirement Age	[64–68] – [99]	.001***
IM	Anticipated Retirement Age	[64–68] – [74–78]	.009**
IM	Level/Role	FLM – IC	.024*
IM	Level/Role	FLM – MSM	.030*
IM	Level/Role	FLM – Executive	.004**
AMO	Anticipated Retirement Age	[64–68] – [74–78]	.012*
AMO	Industry Sectors	Other – Healthcare	.011*
INTEG	Level/Role	FLM – Executive	.006**

Note. Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

*Sig. < 0.05 **Sig. < 0.01 ***Sig. < 0.001

WEIMS = Work Extrinsic and Intrinsic Motivation Scale.

Summary of Non-Parametric Tests for Variance

The results of the Kruskal-Wallis testing found significant findings in both BPNSFS and the WEIMS measures as presented in Table 11. Within the BPNSFS measures, the groups of Recoded Anticipated Retirement Age, Industry Sector, and Level/Role showed statistically significant findings within the pairwise comparisons for AF, AS, and RF. Within the WEIMS measures, the groups of Recoded Anticipated Retirement Age, Industry, and Level/Role also showed significant findings within the pairwise comparisons for AMO, IM, and INTEG.

Table 11*Summary of Key Results From Kruskal-Wallis Tests*

	Demographic group/subgroup		
	Recoded anticipated retirement age	Industry	Level/role
BPNSFS measure			
Autonomy Satisfaction (AS)	[64–68] – [99 ^a]		Executive – FLM Executive – IC
Autonomy Frustration (AF)	[64–68] – [99 ^a]	Government – Other	
Relatedness Frustration (RF)	[64–68] – [99 ^a]		
WEIMS Measure			
Intrinsic Motivation (IM)	[64–68] – [99 ^a] [64-68] – [74-78]		FLM – Executive FLM – MSM FLM – IC
Amotivation (AMO)	[64–68] – [99 ^a] [64-68] – [74-78]	Healthcare – Other	

Note. a. Group 99 of the Anticipated Retirement Age was the group of older workers who indicated that they plan to work for as long as they are able to.

Correlation Between BPNSFS and WEIMS Measures

Non-parametric correlation testing was conducted to observe how the individual measures for the BPNSFS and WEIMS might move together, because these individual measures were ordinal in nature. Correlations tests were run between the measures from BPNSFS and WEIMS questions using the SPSS software tool. SPSS automatically generated both a Kendall Tau and a Spearman Rho. Although both are non-parametric correlation tests, the Kendall Tau was used in this study due to its perceived higher robustness for ordinal data (de Winter et al., 2016; Nikitina & Chernukha, 2023). Detailed results of the Kendall Tau correlation tests between the BPNSFS and WEIMS measures in this study can be found in Appendix D.

Taking the results from the Kruskal-Wallis tests as shown in Table 11 and the Kendall Tau correlation test results in Appendix D, an examination of the behavior of the key individual measures between BPNSFS and WEIMS was performed. As presented in Table 12, the Kendall Tau correlation between BPNSFS and WEIMS measures showed that autonomy frustration (AF) had a positive correlation with amotivation (AMO), i.e. when autonomy frustration increased, amotivation also increased. On the other hand, AF had negative correlations with IM and INTEG, which are the self-determined motivation constructs in SDT (Deci & Ryan, 2012). Furthermore, autonomy satisfaction (AS) was negatively correlated with AMO scoring, while it was positively correlated with IM and INTEG. Finally, results also indicated that relatedness frustration (RF) was positively correlated with AMO and negatively correlated with IM and INTEG.

Table 12

Kendall Tau Correlation Between BPNSFS and WEIMS Measures

BPNSFS measures	WEIMS measures		
	AMO	IM	INTEG
Autonomy Frustration (AF)	.448 $p < .001$	-.325 $p < .001$	-.210 $p = .002$
Autonomy Satisfaction (AS)	-.303 $p < .001$.438 $p < .001$.318 $p < .001$
Relatedness Frustration (RF)	.401 $p < .001$	-.283 $p < .001$	-.207 $p < .003$

Note. WEIMS = Work Extrinsic and Intrinsic Motivation Scale. BPSFS = Basic Psychological Need Satisfaction and Frustration Scale. AMO = amotivation. IM = intrinsic motivation. INTEG = integrated motivation.

Statistically Significant Findings

Given that certain subgroups under Recoded Anticipated Retirement Age, Industry, and Level/Role appear in statistically significant findings in both the BPNSFS and WEIMS measures

and the correlation between measures, it would be meaningful to examine the mean scores of these subgroups. The BPNSFS and WEIMS mean scores of select demographic subgroups with statistically significant findings are presented in Tables 13 and 14 respectively.

Table 13

BPNSFS Mean Scores of Demographic Subgroups With Statistically Significant Findings

Subgroups (subgroup number)	Measures (mean scores)		
	AF	AS	RF
Anticipated retirement age subgroup	99-2, 3-2	99-2	99-2
[64–68] (2)	2.975	3.575	2.275
[69–73] (3)	2.167		
Work as long as possible (99)	1.956	4.052	1.625
Industry sector subgroup	5-1		
Government (1)	2.57		
Other (5)	1.77		
Level/role subgroup		3-1, 4-1	
Executive (1)		4.175	
Front-line Management (3)		3.467	
Individual Contributor (4)		3.71	

Note. AF = autonomy frustration. AS = autonomy satisfaction. RF = relatedness frustration.

Individuals who identified as desiring to work for as long as they are able to (Recoded Anticipated Retirement Age = 99) scored the lowest in autonomy frustration (AF) and amotivation (AMO), two measures that are positively correlated. Subgroup 99 also scored the second highest in intrinsic motivation (IM). Taking these points together, subgroup 99 could be considered high on the spectrum of planning to work as long as possible.

Table 14*WEIMS Mean Scores of Demographic Subgroups With Statistically Significant Findings*

Subgroups (subgroup number)	Measures (mean scores)		
	AMO	IM	INTEG
Anticipated retirement age	99-2, 2-4	99-2,2-4	
[64–68] (2)	1.950	3.833	
[74–78] (4)	1.150	4.75	
Work as long as possible (99)	1.441	4.574	
Industry sector	5-6		
Other (5)	1.313		
Healthcare (6)	2.222		
Level/role		3-4, 3-2, 3-1	3-1
Executive (1)		4.383	4.300
Mid-to-senior management (2)		4.308	
Front-line management (3)		3.567	3.467
Individual contributor (4)		4.283	

Note. AMO = amotivation. IM = intrinsic motivation. INTEG = integrated motivation.

In contrast with subgroup 99, subgroup 2 of the Recoded Anticipated Retirement Age scored high in AF, AMO, and relatedness frustration (RF). This subgroup was categorized as study participants who anticipate retiring between the ages of 64–68, which is the age range of eligibility for most retirement-related benefits in the United States such as Medicare and Social Security (Social Security Administration, n.d.).

When examining the Industry Sector, individuals who identified as working in Government or Healthcare scored high in both AF and AMO when compared to those who identified as working in the field of Other. As mentioned earlier in this chapter, participants who did not identify as working in the survey-provided sectors of government or public sector, academia, healthcare, or private sector declared “Other” as their industry sector. Examples of

“Other” industries from the participants were journalism, legal profession, and consulting. Although these could technically be included in the private sector (and there were participants who were consultants who selected the option for private sector), participants who selected Other as their industry were often self-employed or held positions of authority that gave them more autonomy in their work (e.g., senior principal at a consulting firm, founder of a coaching firm, partner in a law firm). It should be noted that other industry sectors may reflect differences, but none were identified as statistically significant in the data set.

Finally, when examining the Level/Role in the organization, differences were found in autonomy satisfaction (AS), intrinsic motivation (IM), and integrated motivation (INTEG). Of interest, AS is positively correlated with IM, and INTEG. In each case, those at an executive level (Level/Role subgroup 1) held the highest mean scores in each of these measures. In contrast, subgroup 3 of front-line managers held low scores compared to subgroup 1 of executives in IM, whereas subgroup 4 of individual contributors was lowest in INTEG.

Summary

Descriptive statistics and non-parametric statistical tests were used to examine the quantitative survey data collected from 124 study participants across the United States. Multiple statistically significant findings were found through non-parametric analysis using Kruskal-Wallis with pairwise comparison and a Bonferroni correction as well as Kendall Tau correlations. Of particular interest were the participants who identified as desiring to work as long as possible and those who identified as executives. Analysis indicated that Anticipated Retirement Age, Industry Sector, and Level/Role subgroups yielded differences in the satisfaction and frustration of the needs for Autonomy (AS, AF) and relatedness (RF), which

were correlated with the level of intrinsic or integrated motivation (self-determined motivation) or amotivation (non-self-determined or controlled motivation).

Qualitative Data Analysis and Results

This section covers the analysis of the qualitative data in this study, including the sources of qualitative data, the in-depth coding approach, and the results from the thematic data analysis.

Data Collection Sources

Qualitative data was gathered from the survey administered to all 124 study participants and from individual interviews with a smaller subset of 12 participants.

Although the survey consisted predominantly of quantitative data as discussed earlier in this chapter, the survey also included one open-ended question, which asked survey respondents to use their own words to identify the top three reasons they chose to continue to work. The purpose of this open-ended question was to reveal factors that were top-of-mind for the older workers, particularly factors that were not represented within the BPNSFS and WEIMS measures. When warranted, I also used the short answers to the question to corroborate or further explore an individual's answers during the interview process.

At the end of the survey, participants were invited to participate in an interview and share their lived experiences as an older worker. Twelve participants, six male and six female, were selected among the survey respondents to be interviewed for one hour over Zoom as mentioned in Chapter 3. During the interview, I took researcher notes and wrote reflexivity memos to capture salient points. I also utilized the automated transcription feature in Zoom and Otter.ai to generate transcripts, which I reviewed and edited afterward to clean up mistakes in transcription that I could reasonably identify and to anonymize the participants' identities.

The interview data underwent in-depth coding using both inductive and deductive thematic analysis in the Atlas TI qualitative software tool. Coding is a methodological approach to organizing and analyzing qualitative data to uncover meaning and insights into the data (Ravitch & Carl, 2019). After multiple rounds of coding, I then divided the emerging themes and subthemes into categories which allowed meaningful patterns of data to emerge. The results from the thematic data analysis were then used to answer the research question:

Research Question: What do older workers identify as factors that influence their motivation to continue to work beyond the traditional retirement age?

Qualitative Data From Survey Instrument

As mentioned in the previous section, the survey instrument included one open-ended question that generated qualitative data for analysis. Using their own words, survey respondents identified the top three reasons for extending their working lives. The participants responded in short phrases that were then analyzed. All 124 valid survey respondents provided three answers, although some respondents provided two reasons in one answer (e.g., Participant 89 wrote, “I like being active and trying to improve and learn and gain experience” as one answer) whereas a few provided duplicative responses (e.g., Participant 91 wrote three reasons as “for fun,” “travel,” and “vacation,” wherein “travel” and “vacation” were coded under the same code for Lifestyle under financial reasons). As such, the survey yielded 403 answers that were coded.

Keeping in mind that in-depth interviews were already designed to take place after the survey instrument was administered, the primary goal for including a short open-ended question in the survey was not to delve deep into motivational factors. Rather the single open-ended question in the survey was designed to quickly surface motivations that were top-of-mind for the older workers, particularly factors that were not represented within the BPNSFS and WEIMS

measures. The results could also inform the next phase of interviews. Therefore, the coding process for the survey answers was simpler and less in-depth than that of the interview transcripts, which will be covered in the next section. This goal was met when the coding of the survey answers yielded new themes beyond those provided in the BPNSFS and WEIMS questions.

Five themes—listed in order of frequency starting with the most cited theme—emerged: (a) purpose, (b) financial security, (c) competence, (d) relatedness, and (e) task enjoyment. Out of 124 respondents, the top two most cited themes were not within the scope of the BPNSFS and WEIMS measures yet were mentioned by 113 and 94 respondents respectively, whereas the other codes were mentioned by 43 or fewer respondents (<35%). This indicated the significance of purpose and financial security for older workers’ motivation to continue to work. Results of the coding process for the qualitative survey data are shown in Table 15. The descriptions of these codes can be found in Table 16. Codes with 20 or fewer responses (<5% of total respondents) were excluded.

Table 15

Coding of Qualitative Data from Survey Instruments With Respondent Count

	Code	Number of respondents			
		Total	1st reason	2nd reason	3rd reason
1	Purpose	113	48	41	24
2	Financial Security	94	35	31	28
3	Competence	43	14	18	11
4	Relatedness	40	6	15	19
5	Task Enjoyment	30	10	7	13

Table 16*Definition of Codes Qualitative Data From Survey Instruments*

Number	Code	Description
1	Purpose	Broader purpose beyond self to serve a greater good or larger cause, e.g., generativity, helping others, contributing to society
2	Financial Security	Increase income and savings, reduce expenses through work-related benefits such as health insurance, maintain a certain lifestyle, and meet financial obligations
3	Competence	Increase or demonstrate their competence through challenges or new and stimulating experiences to increase their belief in their capabilities. An SDT-related term that is measured in BPNSFS.
4	Relatedness	Having strong and secure relationships. An SDT-related term that is measured in BPNSFS.
5	Task Enjoyment	Inherent enjoyment in performing the task or work itself. An SDT-term related to INTEG motivation in WEIMS.

The coding of the qualitative data in the survey was relatively clear and straightforward because most of the responses to the one open-ended question in the survey were short and to the point. For example, the code Purpose was applied to answers such as “It gives me a reason to get up in the morning, a sense of purpose” (Participant 15), “There are many people that need help & healing” (Participant 10), “Helping others” (Participant 14), and “Being part of something larger than myself; contributing to a mission” (Participant 16), or simply “Purpose” or “Sense of purpose” (Participants 1, 19, 22, 26, 30, 39, 50, etc.). The code Financial Security was applied to answers such as “Income” or “Dollars” or “Money” (Participants 3, 7, 8, 11, 14, 17, and more), “Financial” or “Financial security” (Participant 36, 45, 46, 52, etc.), and phrases that included the term “medical insurance” or “health insurance” (Participant 11, 16, 17, 32, etc.) such as “The dollars cover the excessive cost of Medicare for those who saved for retirement” (Participant 4)

and “To have health insurance until I’m eligible for Medicare” (Participant 65). Therefore, the coding and analysis of this set of data was completed in a straightforward manner.

Further in-depth coding and thematic analysis were conducted with interview transcripts in the next phase of qualitative research, which I will discuss in the next section.

Qualitative Data From Individual Interviews

As mentioned earlier in this chapter, 12 older workers from diverse backgrounds and work experiences across the United States were interviewed for an hour over Zoom as part of the study. The subset of 12 participants interviewed roughly mirrored the demographic distribution of the broader survey respondents’ population distribution. Among the interviewed participants, 50% were male and 50% were female; 75% identified as White or Caucasian, and 17% identified as Black or African American; 58% earned graduate degrees, and 42% held bachelor’s degrees (see Table 1). In terms of employment, 50% of the interviewed participants were working full-time whereas 33% of them were retired; 42% were in the private sector, while 25% worked in government or the public sector. The others were from healthcare (17%), academia (8%), and other/consulting (8%). Eight of the 12 interviewees were individual contributors, and three were executives. Only one interviewee was in middle management; however, many of the self-identified individual contributors who were interviewed had held mid-management positions prior to shifting to their current individual contributor roles as an older worker, thus bringing forth their perspectives as an individual contributor and a front-line and/or senior manager.

After the interviews were completed, interview transcripts were generated, reviewed for accuracy and data privacy, and subsequently analyzed using coding and thematic analysis to synthesize the data and generate findings for the research.

Thematic Analysis Cycles

Data analysis of the interview transcripts began with inductive coding, followed by deductive coding using self-determination theory (SDT), socioemotional selectivity theory (SST), and Erikson's Adult Development Theory in an iterative manner as new ideas and themes emerged and evolved to answer the research question of the study. The following steps were taken to complete the thematic analysis.

Step 1: An initial pass of the interview transcripts was conducted with inductive or in vivo coding. I created more than 100 descriptive codes from the older workers' answers to the interview questions as I sought to identify meaningful themes and insights from the qualitative data.

Step 2: A second pass of the interview transcripts was conducted with deductive coding, whereby I paid particular attention to participant answers that aligned with key concepts from SDT, SST, and Erikson's Adult Development Theory. I also renamed the inductively created codes to match the nomenclature used during deductive coding to enhance the clarity and meaning of the evolving themes. In the process, redundant codes were removed.

Step 3: I re-read all the transcripts again while reviewing the codes assigned. Once all the codes were created, I identified commonalities, consolidated similar codes, and removed unnecessary codes such as those not directly addressing the research question, to create a unified coding framework and ensure a thorough mapping and understanding of the data, including overlaps and differences.

Step 4: Using the newly created unified coding framework from Step 3, I reviewed the transcripts and finalized the grouping of the codes into categories with associated themes and subthemes.

This four-step approach was useful in identifying the key categories and themes, which resulted in four categories, six themes, and 20 subthemes. Category 1 *Individual Internalizations* was referenced by 100% of the participants 177 times across all the transcripts, while Category 2 *Needs Fulfillment* was also mentioned by 100% of the participants 349 times across all the transcripts. Category 3 *Everyday Circle* was referenced by all participants as well for 386 times, whereas Category 4 *Societal Systems* was mentioned by 92% of the participants 73 times across all the transcripts. Table 17 has the breakdown of these categories, along with the number of references for each theme and subtheme and the percentage of participants for each group.

Table 17*Results of Coding Thematic Analysis of Qualitative Data from Interviews*

Thematic analysis	Total references	Participants	Percentage
	783	12	100%
Category 1. Individual Internalizations	177		
Theme 1. Older Workers' Mindset	177	12	100%
Subthemes:			
1.1: Reimagining Retirement	34	10	83%
1.2: Expansive Future Time Perspective	34	10	83%
1.3: Integrated Identity	29	11	92%
1.4: Growth Mindset	58	12	100%
1.5: Task Enjoyment	22	9	75%
Category 2. Needs Fulfillment	349		
Theme 2. Fundamental Needs	98	12	100%
Subthemes:			
2.1: Financial Security	41	12	100%
2.2: Physical Stamina	30	12	100%
2.3: Mental Cognition	27	11	92%
Theme 3. Psychological Needs	251	12	100%
Subthemes:			
3.1: Purpose	71	12	100%
3.2: Autonomy	57	12	100%
3.3: Relatedness	55	11	92%
3.4: Competence	68	12	100%
Category 3. Everyday Circle	386		
Theme 4. Organizational Environment	135	12	100%
Subthemes:			
4.1: Leader-Member Interactions	47	10	83%
4.2: Company Climate	48	12	100%
4.3: Rewards, Recognition, and Policies	20	8	67%
4.4: Work Environment	20	9	75%
Theme 5. Family Environment	49	9	75%
Subthemes:			
5.1: Spouse/Life Partner Influence	16	9	75%
5.2: Familial Responsibilities	13	9	75%
5.3: Elders as Role Models	20	8	67%
Category 4. Large Institutions	73		
Theme 6. Societal Systems	73	11	92%
Subthemes:			
6.1: Government and Public Benefit Programs	21	9	75%
6.2: Challenges in Finding Employment (Ageism)	52	11	92%

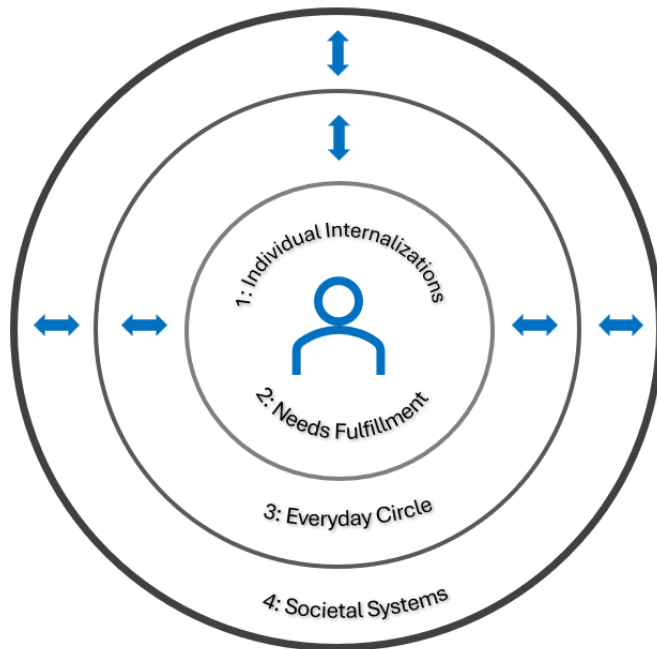
As seen in Table 17, the four major categories are (a) Individual Internalizations, (b) Needs Fulfillment, (c) Everyday Circle, and (d) Large Institutions. The definitions of the four major categories are as follows:

1. *Individual Internalizations* is meant to describe the personal beliefs and mindsets of the older worker that were formed, interpreted, and internalized over their decades of lived experiences as an individual. The subthemes for this category include imagining retirement, expansive future time perspective, integrated identity, growth mindset, and task enjoyment.
2. *Needs Fulfillment* is meant to describe the inherent human needs that drive and motivate certain behaviors. The subthemes for this category include financial security, physical stamina, mental cognition, purpose and significance, autonomy, relatedness, and competence.
3. *Everyday Circle* is meant to describe the immediate surroundings of the older worker, in particular, their family and social circle, and the organization in which they work. The subthemes for this category include leader-member interactions; company climate; rewards, recognition, and policies; and work environment as well as spouse/life partner influence, familial responsibilities, and elders as role models.
4. *Societal Systems* is meant to describe the macro influences at a societal level that affect the older workers' motivation and capacity to work. The subthemes for this category include government and public benefit programs and challenges in finding employment, potentially related to ageism.

A visualization of how these categories interact with one another is shown in Figure 4. The comprehensive breakdown for each category, theme, and subtheme is discussed in conjunction with supporting quotes and results in the next section.

Figure 4

Categories of Factors Influencing the Work Motivation of Older Workers



Category 1: Individual Internalizations

The first category, *Individual Internalizations*, was derived from the reflections of the participants on what motivated them to continue to work when many others in their age group had retired. Their responses were filled with their personal beliefs, their hopes for the future, and their outlook toward work and life. I noticed that they sometimes referred to these beliefs and outlooks in connection with their past and that these were the result of the individual's interpretation and internalization of their decades of lived experiences. After all, others who might have gone through similar experiences could have interpreted them differently and reached

different conclusions. As a result, I titled this category *Individual Internalizations*. I created this category to surmise the various descriptions in their responses and how these individual beliefs influenced their thoughts and emotions toward working longer. This category has one major theme and five subthemes which I present below.

Theme 1: Older Workers' Mindset. This theme was coded as an expression of how older workers portray their internal beliefs and approach toward aging and living a good life. All of the participants mentioned how their mindsets influenced their motivation to work. The theme *Older Workers' Mindset* consists of five subthemes: (a) *Reimagining Retirement*, (b) *Expansive Future Time Perspective*, (c) *Integrated Identity*, (d) *Growth Mindset*, and (e) *Task Enjoyment*.

Subtheme 1.1: Reimagining Retirement. The *Reimagining Retirement* subtheme emerged from references that the study participants, whose ages ranged from 62 to 77, used to describe how they plan to spend their time in the coming years, during a time when many of their peers have retired. Among the interviewees, 83.3% shared that they prefer to stay busy, productive, and active through work, whether paid or unpaid, rather than simply relaxing in the years ahead.

For example, Participant 100 (age 74) shared, "My brothers and sisters ... they're not working ... and here I am a lot older, and I'm still working. But honestly, I'm not ready to retire, and I don't want to retire." Later, she added, "I just don't think I ever was one to play cards or be on the tennis court ... I think the value in my life is giving to others." Similarly, Participant 57 (age 65) mentioned that an idle retirement was not something he saw himself enjoying, "I'm not ready to just play golf all day, and I can't do that. I can't for my own health, you know, my own well-being." Participant 93 said, "I don't see myself in a rocking chair. Nor do I see myself

fishing off a pier, you know, by the beach or something. I just feel like I want to keep moving and learning.” He later added:

I don't see myself sailing off to the sunset doing cruises for the rest of my life in my golden years. I'd like to continue to work into my 80s and 90s if I can, you know, even if all I'm doing at that point in time is volunteer work.

Participant 10 (age 66) shared similar sentiments and said:

My view on aging has been that, as I got older, I did not see myself being that person who stayed at home to make birdhouses. I always envisioned myself to continue working in some form or fashion, even if I wound up being the guy that takes care of the plants at Home Depot ... at least I'm out doing something. That's just my perception of myself.

Participant 26 (age 75), who initially retired but went back to work, described his initial experience with retirement as follows:

It was good, retirement was good. But after about six months of, you know, going to all our beaches and whatnot, I got bored. I realized, hey wait a minute, is this really good? I need to do more than just, you know, play golf and play tennis and play, you know, just doing nothing. I feel like I have more to give back to the world than just, you know, hanging around and doing nothing.

Further in the interview, Participant 26 energetically described how he was spending his retirement: “I volunteer to go and give lectures to university students. As I got into it, I realized, hey, I really liked doing that. Even though I retired, I feel like I could, you know, continue to give more back.”

Participant 43 (age 62) shared similar sentiments about staying active and giving back in retirement. He mentioned,

If I hit the lottery, right, say more than \$2 million, I will probably start a nonprofit. I try to be of use in that way. And maybe I'm not working every day, maybe I'm more of an advisor. But then, I would find other kinds of active things to do again.

Participant 81 (age 64) described a similar outlook in how he saw himself staying active and doing some volunteer work if he was financially secure:

If I had enough money to retire, I could spend 10, 15, or 20 hours a week with the [high school] team [as a volunteer mentor]. I did that just before the pandemic when I was between jobs because of a layoff ... I got to go to one or two weekday meetings and both weekend days, and I spent a lot of time with them, got very close. And that would be sufficient for me to say, “Oh, I’m doing something useful if I retired.” So I don’t have to have the job, but I do want to do something productive and fulfilling.

Data showed several references from participants about their desire to continue to work and stay productive in their later years, whether paid or unpaid.

Subtheme 1.2: Expansive Future Time Perspective. This subtheme emerged as the participants remarked on their perception of the future. Ten out of the 12 participants mentioned their optimism about the opportunities and possibilities ahead of them, while also acknowledging their decades of experience. Although all participants have experienced the passing of loved ones, whether a parent, spouse, or child, and recognize that life does not go on forever, they chose excitement over anxiety toward the future. Participant 81 explained this subtheme by saying:

I can’t believe we’re in our 60s. I don’t feel like I’m like an old person. So in one sense, I don’t feel old, but in the other sense, I recognize that I’ve been around for a long time and have a lot of experience. And I appreciate that experience.

During an interview, Participant 57 (age 65) said with a grin, “Now, I’m just trying to figure out what am I to do next when I grow up!” and later added, “I’m kind of looking at that right now, kind of a rebranding, or you, let’s just go for it—do something different.” Participant 26 talked about exploring the possibility of enrolling in a Ph.D. program and stated, “I’m 75 now, so I could work for, let’s see, I could live through 95, work for 20 more years!” Participant 93 initially retired at 62 from a corporate leadership position but described his thought process to “unretire” and reenter the workforce as follows:

I started thinking about coming back. I was thinking about HR [area of expertise], but at one point in time, I thought, maybe I could do anything I want, possibly, you know, maybe I want to get into criminology ... I was thinking I had to find a Director of HR

[role], and I'm like, Wait, why does it have to be a Director of HR? ... Those things are playing in your head.

Several participants described having a lower subjective age, i.e., their self-perception of how old they feel. For example, Participant 93 mentioned, "I'm 62 but my brain doesn't feel 62. I feel like I'm probably still in my 30s or 40s." Participant 57 also declared, "I'm 65. I feel like I'm 45!" Participant 26 also remarked, "I feel that physically, mentally, I'm just as good as when I was 30 years old. I don't, I don't feel anything less."

Data showed the generally optimistic outlook of study participants toward the future, in conjunction with their awareness of their chronological age.

Subtheme 1.3: Integrated Identity. This subtheme surfaced as participants responded to questions about the reasons behind their beliefs or behavior by stating their sense of identity and lifelong traits. Among the interview participants, 92% mentioned their motivation to work as being integrated with their sense of who they are as individuals across decades of living.

For example, Participant 100 said in a matter-of-fact tone, "I've always been the type to work." Similarly, Participant 95 solemnly disclosed, "I'm going to always keep those tools, techniques, and knowledge ... so that I'm able to contribute. I mean, I've been a nurse since I was 19. So because of that, it's in my blood." She later added, "I think, as many of us do, that work is a part of my identity. It is, it is who I am." Participant 88 also described this sentiment as "Helping people has always been part of me. Whether it's being a teacher, being in the workforce ... whatever, that's been a part of who I am."

When asked for a reason for working, Participant 77 responded, "Because I see myself as, you know, an educator, as a consultant, as a coach. And that has given me a whole lot, and I've given a lot to that. So we're kind of like, you know, this way."

This subtheme recognized that older workers' perception of their work as tied to who they are or a part of who they are influenced their motivation to continue to work.

Subtheme 1.4: Growth Mindset. The references in this subtheme were grouped to describe how participants enjoy and believe in the value of learning regardless of age, in the context of how work provided them with opportunities to learn. This subtheme also included references on how the individuals' growth mindset enabled them to have the skills needed to stay employed. All of participants remarked on this subtheme and displayed a growth mindset that empowered them to learn new skills throughout their lives.

For example, Participant 18 explained how learning was an important element in her motivation to work:

All my life, I've always been a little restless. You know, once I've understood a job or how to do a particular thing, then I want to learn something else, and challenge myself, and explore new ideas, and always sort of be on the forefront ... Over time, [my motivation to work] evolved into leaning more heavily on the learning aspect of [the job].

Sharing the same sentiment, Participant 77 (age 77) proudly remarked, "I am, you know, of a certain age, but I continue to be active ... My skill level has gone up. I [recently] got a coaching certificate." She expounded, "It's really important, you know, as an adult educator, you believe in lifelong learning, that learning never really stops until the day you die."

Related to the previous subtheme, Participant 43 declared, "I think it's just part of who I am. I guess, you know, I was raised by two educators. I think that was part of it. And so I've been intellectually curious for as long as I can remember." Participant 10 also shared, "I'm a learning-based individual. I think it's one of the things that keeps me young, that keeps an individual young, that you're always learning something new."

At least 25% of the participants revealed returning to graduate school in their 50s and 60s to earn a master's or doctorate degree:

I think the biggest modification I had was going back to school. I made a conscious decision that, well, I'm getting older, you know, and going back to school. And my age was a big consideration because science and research have shown that, as you get older, you get slower. Your cognitive skills and your mental state slow down, and you can't retain as much and stuff like that. And so I was like, well if I'm going to do this, I need to do a while. I feel like I can, you know, and so that's why I think my biggest modification was going back to school. (Participant 57)

Participants recognized that learning is essential to continue to work. Participant 57 articulated this when he said, "I feel if I'm going to do this work, I need to be relevant. And that's why I went back to school."

Subtheme 1.5: Task Enjoyment. This subtheme emerged during the interviews when participants described the positive emotions that emerge from solely doing the work itself. Among the interviewees, 75% mentioned enjoying the work they do, be it for the pleasure or the challenge or novelty it presented. References to this subtheme included direct statements such as "I do enjoy working. I do!" (Participant 95) and "The motivation is, you know, the work itself. Whether it offers opportunities for you to use your skills and your abilities, the creativity that you realize." (Participant 77)

At times, task enjoyment stemmed from the challenge or novelty that work provided. For example, Participant 57 stated, "It's kind of the challenge of getting into the unknown of things I'm not familiar with or comfortable with, you know, I like that challenge." He later expounded, "It feels good. Yeah, it feels good. It's hard. I mean, it's hard to prepare. It's hard to keep people engaged ... but when I do it, and it goes well, yeah, it's very encouraging, you know?"

Similar sentiments were shared by Participant 81, who stated, "I like working deep inside the computer, down at the bottom level where I have control over what's going on" and later, "I

love intellectual challenge, a puzzle.” He highlighted this subtheme when he said, “Great thing to be working on, right? Difficult, interesting, and helping people. That’s a great combination, right? That’s also part of my motivation.”

For some, work could be so enjoyable as to be described as a hobby:

I consider myself doing work because I do put a lot of work into giving lectures. But I don’t think of it as work. I think of it as really a hobby I do as a purpose, the design of things that I like to do! (Participant 26)

Data showed the enjoyment of participants in doing the work they do, which positively influenced their motivation to work.

Category 2: Needs Fulfillment

The second category, *Needs Fulfillment*, was derived from the responses of the interviewed participants on what motivated them to continue to work through the lens of basic human needs, whether physical or psychological. Given the essential nature of these needs, it was unsurprising that 100% of the participants mentioned references in this category with the highest number of 349 references among all categories and across all interview transcripts. The *Needs Fulfillment* category has two major themes, *Fundamental Needs* and *Psychological Needs*, and seven subthemes which are presented next.

Theme 2: Fundamental Needs. This theme was coded as an expression of the factors identified by older workers as baseline for their decision to continue to work, thus the naming of the theme *Fundamental Needs*. All of the participants mentioned how their fundamental need for financial security and health influenced their motivation to work. The theme *Fundamental Needs* consists of three subthemes: (a) *Financial Security*, (b) *Physical Stamina*, and (c) *Mental Cognition*.

Subtheme 2.1: Financial Security. This subtheme encompassed the various indications by participants regarding their financial situation in reference to their motivation and perspective toward working in their 60s, 70s, and beyond. These include references to income, such as salary, pension, investment dividends, and Social Security benefits, as well as savings and expenses, including housing, health insurance, and providing for their family. I intentionally chose to label this subtheme as “financial security” to acknowledge the subjectivity of the financial conditions required to make an individual feel secure. Unlike income, savings, and expenses, which can be objectively quantified, the sense of financial security is personal and reflects the background and desired lifestyle of the individual.

The lack of financial security—or in other words, the fear of financial insecurity—is a huge motivator for older workers to continue to work beyond the traditional retirement age. For example, Participant 95 (age 67), who continued to work full-time, explained:

Finances are always important. I just want to be able to ... to make sure that I am financially comfortable. Because, you know, the one thing is, when you retire, so to speak, and you're on a fixed income ... everything is now more stagnant. Yes, that can be a place of fear that I don't want to be, in that place of fear. And that's why I always want to have opportunities to contribute in some way.

Participant 77 (age 77) also continued to work part-time based on available projects that were presented to her. She shared, “As you’re retired, you live on a fixed income, you know, and if you don’t get the proper amount of increases in your retirement, it can be devastating.” She further explained:

People who are retired, especially those who are widowed, have difficulty sometimes making ends meet, and the cost of living keeps increasing and all of that. So, even though I do a lot of volunteer work, I also enjoy getting assignments that have money attached. And I hate to say this, but some months, it’s difficult for me, you know, to make ends meet.

Feeling financially insecure is a driver to continue to work. As Participant 81 (age 64) bluntly declared, “I don’t have enough money to retire.” When asked about working in her 70s,

Participant 100 (age 74) revealed:

I looked at working until 79. At one point, I told my husband, [age] 75. Maybe that’s good, that sounds like a good number. But that’s next July ... and I start panicking. Only six months [from now]. First of all, how would we survive financially? Because, honestly, our rent is the same amount as my Social Security check.

Financial security considers not only an individual’s income and savings but also their expenses and desired lifestyle:

Finances are a huge motivator. Yes, they’re a huge motivator. I kind of like keeping a roof over my head. And you know, I like keeping the utilities on. All right, I don’t live lavishly, but I would like to think that, at some point, you now, as some of those things [expenses] go away or become lessened, like mortgages, that I would be able to save more for my future, when I don’t have to work anymore. (Participant 39)

Subtheme 2.2: Physical Stamina. This subtheme emerged from older workers’ recognition of the importance of physical health in enabling them to continue to work while other people in their age group had exited the workforce. During the interview, participants were asked what conditions in their lives support and allow them to continue to work. All the participants mentioned that having physical health and stamina was key to the extension of their working lives.

Although many participants also acknowledged the changes to their physical bodies over the years, they all mentioned feeling physically fit for the work they do. For example, Participant 81 mentioned, “I’ve got four or five minor issues, but I can go to work; I can do my job.” Participant 18 disclosed, “Physically, I’m in good health. I don’t have any serious physical limitations. Obviously, I’m not as strong as I used to be. But other than that, it’s not a big deal.” Participant 39 said, “I’m healthy enough to work.”

Another example was Participant 57 who said, “I’ve had to make modifications on how I worked out and stuff because I just can’t run anymore. I swim, you know, and I can bike ride ... To me ... as long as I’m working ... as long as I can work out, I’m good to go.” He later added, “My energy right now is about a nine [out of ten]. Yeah, I’m ready to go!”. He explained, “It’s all about your health” and later added, “I have the energy that is required to do my job.”

Many participants also believed that work contributed to their physical health. For example, Participant 77 said, “I’ve seen people that, you know, have retired, and they have literally gone down, you know, from that point on ... I think, you know, it’s important to stay active as much as you can.” Participant 100 also mentioned that as part of her job, “I walk over five miles a day. So I have better stamina now, having taken this job, and I’m very thankful for that ... I am in better physical shape doing this.” Participant 26 was explicit in stating his motivation to work was to promote good health. He said, “My motivation [to work] now is to make sure that cognitively I stay fit, and physically, I stay fit.”

The responses from the study demonstrated that physical stamina, at a level commensurate with the requirements of the job, is a prerequisite for staying in the workforce. At the same time, many believe that continuing to work contributes to their physical well-being because work keeps them active.

Subtheme 2.3: Mental Cognition. This subtheme embodies the perceptions and intentions of the participants around the state of their mental abilities, particularly in relation to their ability to continue to work. As mentioned previously, being a knowledge worker was one of the criteria for participating in the study. As such, 92% of the participants mentioned the importance of being or staying mentally fit to be able to do their work, which then influenced their motivation to work. For example, Participant 39 declared, “My memory and my learning

ability are still sharp.” Participant 77 also said, “To me, I’m still mentally and physically fit, and I still want to continue to work.”

Although many participants acknowledged that their fluid intelligence abilities (e.g., information processing and working memory) have declined, they also recognized that their crystallized intellectual abilities (e.g., experiential knowledge and verbal comprehension) have increased with their age. For example, Participant 18 mentioned:

I’ve noticed it’s not that we can’t learn; it’s that we’re slower to learn quite possibly ... So you know, in my more permanent job that I retired from, that was really, really noticeable. Learning new things and the speed with which you had to accomplish it was part of you being very successful. Let me underline the “very” part, because you could still be successful. But the very successful part comes with learning and speed ... I started playing more of a mentorship role to my younger colleagues, because they were learning at a very rapid rate, whereas I was still learning but in comparison, I could see myself slowing down. And I think, if you’re going to run a business, I think that speed is essential, because it’s been proven over and over again, and I’ve seen it, the speed to market, the ability to get things done quickly and to produce more in a shorter space of time is a very important dynamic in most businesses. But they also lacked the experience that I had.

Similarly, Participant 81 described working with younger people as follows:

Your mind is not working as quickly as my 25- or 30-year-old mind was. To some extent, that’s actually true. You know, minds get slower when we get older. I do volunteer work with the high school robotics team. And those girls’ minds run at a thousand miles an hour, right? I have a hard time keeping up with them.

He then followed with an appreciation of the intellectual abilities he brought as an older worker:

I appreciate that a person with the right experience has a perspective that a younger person might not. And I just have a tendency to go in the right place, to see where the problem is. I have a tendency to stand back and say, we’re going to approach our development and architecture from this point of view because I know if you do it wrong, six months from now, there will be lots of pain that we could have avoided ... Yeah, so that says age and experiences are very valuable. But I’ve also expressed that youth and energy and a fast mind is also very valuable. So life is full of balancing acts, and you want to take advantage of all your resources, right?

Participants appreciate the importance of mental cognition and the role of work in staying mentally fit. For example, Participant 26 said, “I want to really do two things. One, exercise my brain because I feel that my brain is still ticking fairly well.” When asked why he chose to continue to work, he answered, “I do it because I feel that I need to do that to keep my cognition to the point where ... I don’t want, as we age, physically, we deteriorate, as well as mentally. And I don’t want that to happen.”

Participant 43 explained how work could provide intellectual stimulation to keep individuals mentally fit:

I do think there is a matter of intellectual stimulation. That’s important, you know. As we get older, I think that you want to keep the synapses firing, feed the brain cells churning and all those things. I think that’s important. I play music and that’s another thing for me too, for intellectual stimulation, but also using that example, as well as work.

Older workers, especially those performing primarily knowledge work (in contrast to physical labor), identify their mental cognition as an important factor influencing their motivation and decision to continue to work.

Theme 3: Psychological Needs. The theme *Psychological Needs* is another theme under the category of *Needs Fulfillment*. This theme was coded as an expression of the internal, psychological factors identified by older workers as inherently motivating in their decision to continue to work. All the participants mentioned at least three of the four subthemes in this theme: (a) *Purpose and Significance*, (b) *Autonomy*, (c) *Relatedness*, and (d) *Competence*.

Subtheme 3.1: Purpose and Significance. The subtheme *Purpose and Significance* embodies the various references from the participants on their motivation to work in conjunction with their purpose in life, a purpose that goes beyond themselves. This subtheme includes motivations to work that reference working for a larger cause, contributing to society, leaving a

legacy (generativity), and making a difference in the world. All participants mentioned some form of purpose in their responses.

For example, Participant 95 said, “I’m looking for places where I can help others, where I can make a difference.” In describing her work, she added, “I believe that I am doing the things that I’m doing now, because there’s a purpose for my life.” Participant 77 also mentioned, “I really have to find something that would kind of give me goals and purposes ... Having a career was really kind of like one of those substitutes that helped me really find purpose and meaning in life again.” She described her work as her “higher purpose.” When asked about the role of work in their lives, Participant 93 firmly answered, “It gives me purpose.”

Having a purpose in life helps an individual feel their life is significant. Participant 57 shared, “The motivation on why I continue to work is, I think, for relevancy, to feel like you’re contributing ... As an older American, you know, you want to contribute, you still want to feel relevant.” He further explained, “My purpose is to give back and help others ... and that’s why I continue to work.” He highlighted why he believed in the importance of having a purpose in life from his perspective as a U.S. military veteran:

At least 10 friends or former colleagues committed suicide. And I firmly believe there’s a theory ... [If] a veteran kind of loses purpose, and they miss the regimentation and the structure that the military brings, you know, ... you lose more and more of that ... and if you don’t have that sense of purpose, like one of the guys that committed suicide after 30 some years in the military ... I think we’re losing people because they just don’t feel like they’re part of society anymore.

Helping the next generation as they recognize the impermanence of life was another source of purpose for older workers. For example, Participant 88 said, “I’m not going to be here forever ... If someone can take a tenth of what I showed them and move forward in their career,

[that's motivating]." Participant 26 also shared, "By interfacing with younger students... I think it helped make me realize, hey, look, I can give back!"

Work was a means for individuals to be part of society and to have purpose in their lives. As Participant 81 said, "I want to be doing things that are useful and productive and helpful."

Subtheme 3.2: Autonomy. The subtheme *Autonomy* emerged from the responses of study participants about having the sense of choice, flexibility, or a semblance of control in their work. Autonomy in the context of work can come in the form of autonomy in location (where to work, e.g., hybrid or remote work options), time (when to work, e.g., full-time or part-time, flexible work schedules), or work approach (how to work, e.g., self-selected or micromanaged). All the participants mentioned autonomy in their work as a factor that influences their motivation to work. According to SDT, when the need for autonomy is satisfied, motivation increases, whereas disregarding the need of older workers for autonomy reduces their motivation to work (Deci & Ryan, 2008; Ryan & Deci, 2017).

For example, while talking about her work, Participant 18 said, "I did really enjoy it. Mostly because I was independent, and I chose my own hours." Participant 88 noted, "Being able to work from home was a blessing." Participant 77 noted, "Autonomy is very, very important. You know, you're free to explore new ideas ... You don't have to be told no, you can't do this."

People in higher positions such as executives or senior management in organizations described their experiences of exercising autonomy. For example, Participant 39, an HR leader, shared, "I could be hybrid if I wanted to. I probably could be fully remote if I wanted to." Participant 43, a C-suite leader in his organization, noted, "We have a decent PTO, but it's not

unlimited ... but I think it is generous, but also, you know, I'm a part of how we make the decision about what that looks like."

More importantly, participants desire autonomy in how they perform their work in recognition of the decades of experience they have:

Especially when you're highly experienced like I am. You know, you're able to, you know, see problems and address them as they come up. You don't have to ask permission, you know, or follow a certain guideline that this is how you deal with this problem ... In my younger days, you know, because you were learning and you didn't want to, you know, cross the line between insubordination and compliance, there you did it. But now that you ... you're pretty much aware of the playing field and the contingencies that come up, and you have different tools that you can to, you know, deal with those things ... Yes, I don't think I could do that [being micromanaged] anymore. (Participant 77)

Not having autonomy at work also influenced their motivation to work in a negative way.

Participant 81 bluntly said, "I don't like to be micromanaged. I don't like arbitrary rules."

Participant 88 expounded on this point:

I'll tell you what's ... demoralizing is when they micromanage. Yeah, autonomy is super important. If you give me a project and tell me you want me to do this, I will do it. But if you give me a project, and then check it with me every three days, I'll probably beat you up by the time we're done with this and decide never to work with you again. And I did do that.

Data collected showed that the sense of autonomy could be experienced in different ways by individuals, but when work satisfies the individual's fundamental need for autonomy, it increases their motivation to work.

Subtheme 3.3: Relatedness. The subtheme *Relatedness* emerged from the responses of study participants about having the sense of healthy relationships and friendships at work. In this study, relatedness was often discussed in the context of relationships with colleagues, but it could also pertain to relationships and interactions with their community, clients, or partners at work.

Among the interviewees, 92% mentioned relatedness in their work as a factor that influences their motivation to work.

For example, when asked why she continued to work, Participant 100 replied, “I love the people that I’m taking care of, number one. I love also the people I work with.” She explained, “I work with some fun, amazing people. And we can have lots of fun.” Further in the interview, she added, “If my coworkers left, I would leave because they’re the ones who say [to me], ‘Do you need help?’ Or I’ll say to them, ‘Hey, if you need help with this person, I’ll be glad to help you.’”

Participant 81 noted, “I have gotten better at relationships [over time], and therefore, more appreciative.” As we wrapped up the interview, he reflected, “This discussion with you has helped me really clarify that my most important motivation is the relationships that I have [at work].”

Relatedness is a basic psychological need that work can help fulfill with its built-in relationships with colleagues and clients. Participant 77, who started working on part-time projects after initially being retired, shared:

There’s also been a feeling of isolation ... When I was working, I really enjoyed, you know, working with people ... but you don’t see anything like that anymore. So, you feel very isolated, and retirement is not what it’s cracked up to be.

When work did not provide that sense of relatedness, participants felt the loss. Participant 93 described starting a new job in his 60s and his struggle with building new relationships there, which led him to start looking at new opportunities elsewhere:

I always considered myself an introvert, but I do like socializing in small groups. And I like that connection ... And you just don’t get it with [this job]. I mean, you literally just like, sit there and do your job. You know, I eat my lunch by myself everyday ... No one’s ever invited me to lunch. None of the bosses has invited me to lunch ... So I do want to

connect. I want to be able to connect with people. I want to be able to go to lunch with people. I want to be able to go hand out after work, you know, anything.

The importance of relatedness at work cannot be overlooked. As Participant 81 said, “I also honestly want the relationships that come with that.”

Subtheme 3.4: Competence. The subtheme *Competence* emerged from the responses of study participants about believing in their capabilities and wanting to share those capabilities with others. References on competence included work as a means to increase competence, demonstrate competence, or feel a sense of competence. All participants mentioned competence as a factor influencing their motivation to work.

Experiencing a sense of competence could be demonstrated by believing that they possess capabilities that are of value to others, which then increased their motivation to continue to work. For example, Participant 95 said, “I believe that even though I am 67, I still have a lot to offer to others in the work world.” He later added, “I believe I still have quite a bit to offer that is valuable and valued at a level different from someone who was just entering the field, entering the market.” Participant 77 mentioned, “I have something that maybe I can offer them or share with them that’s going to help them.” Participant 88 also shared:

I’m 72 and a quarter. I started working when I was 16. So in my heart of hearts, I knew it was time [to retire], but my brain said, I can still do this! And that’s why I wanted to continue because I knew I still have more to offer.

She later further explained, “[Work]’s really important. It really is. It gives you value. It lets you know you have something to offer!”

As Participant 77 noted, work was a means in which competence could be gained and demonstrated. Participants expressed high confidence in their mental ability to perform at work. For example, Participant 81 mentioned:

As you get older, you're not as sharp in some ways, but I also have lots of experience and knowledge, and I still got a few brain cells left too. On my worst day, I'm better than an average person, but it [getting older] does definitely make it a little more difficult.

Participant 18 shared similar sentiments of seeing themselves as above average in intelligence despite the decrease in cognitive speed:

I've always had really high expectations of myself. So, this slowing down, perhaps, is a relative kind of thing. It's because I have done other things, and the speed with which I picked things up and understanding was still ... in my own age peers, was still faster, right? So it's a relative speed.

Competence, defined as the belief in their abilities to perform the job, is an important factor in influencing the motivation of older workers to continue to work.

Category 3: Everyday Circle

The third category, *Everyday Circle*, was derived from the responses of the interviewed participants on the influence of the people and environment surrounding them in their everyday lives, both in the present and in the past. This category includes references to their parents, spouses and life partners, children, managers, and coworkers as well as references to broader organizational influences such as company culture and HR policies. As shown in Figure 4, this category surrounds the individual and influences the individual's *Individual Internalizations* and *Needs Fulfillment*. Conversely, the individual's mindsets and behavior could also influence the people and environment they interact with on a regular basis. The *Everyday Circle* category has two major themes, *Organizational Environment* and *Family Environment*, and seven subthemes which are presented below.

Theme 4: Organizational Environment. This theme was coded as an expression of how the various elements of the organization the older adult works in influences their motivation to continue to work in that organization, seek employment in a different organization, or leave the

workforce altogether and retire. All of the participants mentioned how their organization influenced their motivation to work. The theme *Organizational Environment* consists of four subthemes: (a) *Leader-Member Interactions*; (b) *Company Climate*; (c) *Rewards, Recognition, and Policies*; and (d) *Work Environment*.

Subtheme 4.1: Leader-Member Interactions. This subtheme emerged from the responses of study participants about interactions with their direct supervisor. Among the interviewees, 83% directly referenced their manager in the interviews. References to leader-member interactions included the manager's leadership style, the older worker's feeling of being seen or heard, and the sense of trust between the manager and employee. Positive interactions such as feeling respected increase their motivation to continue to work, whereas negative interactions such as feeling unheard decrease their motivation.

Participant 77 described the importance of the direct manager to her motivation to work: "The manager's actually the ... kind of like, the linchpin, you know, and he or she actually drives, you know, the culture."

As an example, Participant 18 recounted struggling to work with her previous manager who was younger than her, not specifically because of their age but because of her manager's lack of experience and leadership skills:

One of the things that I think could have been done better is maybe assign a manager that had more experience. So, as an older worker, having had much more experience than many, many people in a variety of experiences, it's kind of hard when your manager is flailing around and doesn't know what to do ... They didn't have the skills not necessarily because they're younger, but it's pretty tough to manage people when you don't have any experience.

Participant 88 described a similar experience:

I think one of the things that I find most difficult being an older person with background experience, etc. is that there is like a new wave of manager that is so focused on project management, on timelines ... Based on the kind of work I was doing, [those] are not

always going to work ... I don't know how much the people above me understood that component.

She highlighted the need for trust between the manager and the employee, saying, "I guess really, trust is what motivates you ... When someone questions your ability, you don't want to go any further."

Feeling seen, heard, and trusted motivates the older worker to continue to work.

Participant 81 mentioned, "I think that the underlying common feature is trust. First off, they trusted me." Participant 93 also shared, "I think the CEO trusted that he could come to me directly for information, which I appreciated. Having the CEO of a company come to you directly ... or asking you for your opinion on some things, I like that."

As older workers continue to work, it becomes more common for them to have a manager that is younger than they are. Whereas some may have qualms about working under a younger manager due to ageism whereby the younger person gets stereotyped because of their age, participants indicated that having positive interactions with their younger manager could shift their beliefs and stereotypes. As an example, Participant 81 recounted his previous belief, "The younger ones are just less experienced and are less likely to be able to do a good job." But when asked further, he reflected:

It [years of experience] does count, although at my new place [of work], my new manager is definitely young, I mean, compared to me. He's probably in his 30s, mid- to late-30s, roughly. When I talk to him about technical issues, he's very insightful and knowledgeable.... His management style is very much of the trusting variety.

An additional dimension was added to the influence of managers on the engagement and motivation of employees who were older workers because of the difference in their years of experience, but mutual appreciation could be built with trust.

Subtheme 4.2: Company Climate. The subtheme *Company Climate* emerged from the responses of study participants pertaining to their interactions and experiences with the organization as a whole, without referencing individual people. I chose the term *Company Climate* to emphasize the current state of the organization, in contrast with the long-term values and beliefs that shape the company's identity often associated with the term "company culture." References to this subtheme included organizational trust, alignment between proclaimed values and observed acceptable behavior at work, and perceived sense of belonging. All participants mentioned aspects of their company climate in discussing their motivation to work.

For example, Participant 100 said, "Their core values state that [Christian values are the company values], and I guess they talk about it, but it depends on the people that are working." She explained, "I'm getting a little disillusioned because now, the subject of bonuses ... has come up. And we're supposed to get some sort of bonus on my paycheck on Friday, but all bets are off. And it's unclear."

Participant 18 recounted an incident regarding organizational trust that led her to eventually leave the company. First, she articulated the implicit nature of company values:

Well, you know, organizations ... it's interesting to me because they value different things. And this is true, no matter the organization, they're gonna put value on different things. And, and it's really the relationship of where they place their value towards where you as a person ... So, it's not ... it's not a hard and fast rule about what they could have done ... It's just where they put their money, right? Everything, you know, and their efforts and their dedication. And that's, that's as it should be. And so, those two things, and, and so many habits in an organization, they're not written down. They're just not written down. They're just habits that have developed over time, that are implicit rather than explicit, right?

She then recounted an incident that defined her view on the company climate:

So, an organization can say, "We value diversity." Or they can say, you know, "We provide racial equality." And yet, and yet, when, for example, and this happened in my organization, someone, one of my colleagues had posted up "Black Lives Matter." They

had a little Black Lives Matter [sign] underneath their nameplate, and somebody ... somebody, an unknown somebody, came and drew a skull and crossbones on it. Um, okay ... So, the organization explicitly says, "We do not racially discriminate." However, when a complaint was filed, because this was done and, and that little poster was defaced ... and it was a small poster. It wasn't like a giant screaming thing. It was just, you know, this big, like, a postcard. Um, nothing was done about it.

And so, you know, it just gives you pause, just gives you pause, and depending on who you are, right, and, and, and maybe if I were a White person ... I might have taken it a different way. So, like I said, it's ... it's relative to you. And it's not necessarily something that's written down, because the written word was different from their actions. You see what I'm saying? And sometimes it's that discrepancy. It's the discrepancy that sticks in your mind. And makes you begin to doubt. So, it's ... it's got a couple of different aspects. It's an aspect of trust, right? It's an aspect of what is written, and then, what is acted upon and the relationship to you.

She concluded, "If you've achieved the majority of your goals, you're less willing to put up with that discrepancy."

Participants in the study have worked in different organizations and have experienced various company climates across their long careers. They were unsurprisingly perceptive to the company climate and its influence on their motivation to continue to work.

Subtheme 4.3: Rewards, Recognition, and Policies. The subtheme *Rewards, Recognition, and Policies* emerged from the responses of study participants about how the organization acknowledges and supports their efforts and contributions through company-approved programs and HR policies. References included pay, bonuses, awards, and other company-specific policies such as mandatory retirement, job flexibility and caregiving-related benefits. Among the interviewees, 67% mentioned this subtheme as they reflected on factors that influenced their motivation to work.

Participants reported feeling that they receive fewer rewards as an older worker. In instances where their contributions were recognized through verbal acknowledgement or the assignment of similar projects subsequently, those recognitions were not tied with meaningful

rewards. For example, when describing the shift in her role from a top contributor to becoming a mentor to new hires, Participant 18 said:

It's not that they didn't recognize it, because they purposely sent people to me. So they recognized it, and they recognize the value, right? But it wasn't rewarded at the same rate. So that's the difference. You know, it's not lack of recognition. It was more at the rate of reward ... the recognition within the workforce is not as forthcoming if you're more in the producer part. I was more of an enabler, if you will.

Company policies that support the fundamental and psychological needs of employees as discussed in the previous category also influence the motivation of older workers. For example, policies that support autonomy could prolong their tenure:

If I was able to do part-time [work] and maintain the level of flexibility that I have now ... as a part-time employee, and do what I'm doing now, that would certainly be a great help, and would help move me forward with staying with the organization. (Participant 10)

On the other hand, the deprivation of autonomy negatively influences their motivation to continue to work:

I had been working remote for three years. It wasn't a problem with anybody. And then, all of a sudden, it was a problem? And they wanted me to drive literally 90 miles each way to go down to the office, and I was like, I can't do that. I just can't. That's just not right ... So I just felt like when I left, it was so the right thing to do. I couldn't stand the turmoil. I couldn't stand being treated like someone who had no value. (Participant 88)

Inequity in rewards, recognition, and policies could, over time, compel older workers to leave the workforce sooner.

Subtheme 4.4: Work Environment. The subtheme *Work Environment* emerged from the responses of study participants in conjunction with the physical and mental conditions of their workspace, particularly the proximity of their home to their place of work. Among the interviewees, 75% mentioned the influence of their work environment on their motivation to work.

The commute to their work was mentioned multiple times. Participants who were previously willing to drive farther for work were appreciative of shorter and fewer commutes to work. For example, Participant 39 said, “I’m very fortunate in that I have a very short commute. It’s under seven miles. This is the closest I think I’ve ever worked in a job for decades.” She later added, “In my previous job, I was on the road all week. So, I haven’t had a job where I actually was at home all the time in years previously. So, it is a contributing factor.” Participant 95 described the two office locations she frequented:

Both places are very close to where I live. So that is another reason why this job does not pose as much pressure. Because I’m very close to home, whereas prior to this season in my life, that wasn’t the case. I mean, I would have to drive 30, sometimes 45 minutes.

When applying for jobs, she noted, “When I see that it is more than a 15-minute drive away, I’m not interested. Or can’t be done remotely? ... I’m not interested. And I do not want to make that decision. No, I won’t do it anymore.”

Similarly, Participant 43 contrasted the commute of his current job with previous jobs:

I’ve had a number of jobs where there was a lot of travel, so not like four days of travel, but a lot of travel, a lot of it overseas travel. This job doesn’t require zero travel, but it’s much closer to zero than it is to 70 or 75%. Yes, that is a huge benefit to us.... It’s also not a hard lift for me. I’ve had those, you know, 45-minute to an hour one-way commutes. Yeah, this is not that.

The intensity and demands of the work environment were also a factor for older workers, many of whom expressed the desire for a less intense pace of work than in the past. For example, Participant 57 disclosed:

I don’t know what else I have to do to prove anything to anybody. And I’m kind of at the point where I don’t want to bust my ass anymore. You know, if I work, I guess I want to do it when I want to do it, and how I want to do it.

Participant 93 shared similar sentiments as he described his prior job in a senior leadership role, “I don’t want to do that kind of work again ... I don’t want to be 24/7, you know.

I want ... I want work-life balance.” Similarly, Participant 39 mentioned, “I like being an individual contributor. I don’t even necessarily have a desire to supervise others at this point. I’ve done it; I can do it.” Participant 95, who moved from being in senior management in corporate healthcare to running a family practice, also said, “I don’t need to work at that maximum level as I did when I was in corporate.” She further explained:

When I think about going back to corporate healthcare, to a corporate environment ... I get physically ill. I don’t want to do it anymore. It was stress and pressure that I don’t want to and I don’t have to put myself in that situation anymore. So, I don’t. And you know, that’s the other piece. I don’t want to go into a high-level, high-stress corporate environment. This is ... This is enough. This is my threshold after years and years of that.

However, she left the possibility of going back to corporate open given the right conditions:

Now there ... I say that, generally speaking, there could be a position that I come across ... that has all of these components, that’s close to work, that I can work remotely, that doesn’t provide the pressure, that the high pressure or the politics of corporate healthcare or any corporation, and all of those things that I desire for myself ... in this season of life ... are presented to me ... That, I can’t refuse. But to walk into a position that I know is going to haul for me to be in a position where I experienced systemic racism, systemic gender discrimination, I don’t want to do that anymore.

Data collected shows that decades of work experience afforded older workers a clearer and more personally aligned view of their desired work environment that was different from their work environments in the past. As Participant 81 said, “The world doesn’t have to be perfect. I’ll take a little crap here and there ... but I won’t take a lot.”

Theme 5: Family Environment. The theme *Family Environment* was coded to capture the influences of close family members on the motivation of older workers to continue to work. Family members include parents, spouses or life partners, children, or other close friends that are in their immediate social circle. Among the interviewees, 75% mentioned how their family influenced their motivation to work. The theme *Family Environment* consists of three subthemes: (a) *Spouse/Life Partner Influence*, (b) *Familial Responsibilities*, and (c) *Elders as Role Models*.

Subtheme 5.1: Spouse/Life Partner Influence. The subtheme *Spouse/Life Partner Influence* emerged from the responses of study participants pertaining to their spouse or life partner, such as how the employment status of their spouse or a divorce situation influenced their motivation to work. Among the study participants, 75% mentioned this subtheme in their interviews.

When talking about their motivations and decisions to work, many participants would inevitably talk about the presence or absence of their spouse because having a partner in life to support or to be supported by was a factor in feeling financially secure. As an example, while describing a typical work week, Participant 77 mentioned, “My husband’s gone so I’m on my own. Where am I going to get the money and all of that?” Participant 100 also shared, “I feel like that choice [to work or not work] was taken away from me when my husband divorced me and left me no choice.”

Spouses can be a source of support and confidence as well. When asked what in their life supported them and allowed them to work beyond traditional retirement age, Participant 88 immediately responded, “I think the biggest thing was my husband. He believed in me.”

The employment status of the spouse also influenced their motivation to continue to work. When one spouse is working, the other spouse is more compelled to work. For example, Participant 95 shared, “He has actually come out of retirement ... because I was still working. And I think he still wanted to not be at home when I was not at home.” When asked about when he planned to retire, Participant 93 answered, “You know, my wife still works, and she hasn’t like shown any signs of giving up ... So it was like, You know what? She’s gonna continue to work, then, you know, I’ll work as well.” As Participant 93 declared, “If your friends haven’t retired, you have no one to play with.”

Subtheme 5.2: Familial Responsibilities. The subtheme *Familial Responsibilities* emerged from the responses of study participants on the duties and obligations they had as a provider in the family. References to this subtheme included having dependent children or grandchildren to take care of, or conversely, the sense of freedom from familial responsibilities as they got older and their children grew up. Among the study participants, 75% mentioned this subtheme in their interviews.

As mentioned in the previous category, financial security was a fundamental need that drives the motivation to work. This subtheme delves into a potential factor, i.e., familial responsibilities, that would then affect the sense of financial security. For example, Participant 39 disclosed:

Salary is definitely a major driver because I still ... I need to work ... I had a very healthy 401K. Unfortunately, I also had an elderly mother ... She lived to 95. But her last five to seven years were, you know ... She had dementia. So my goal was to keep her in her home and familiar surroundings. Well, that went through all of her money that she never thought she would outlive ... She did. And then I had to dip into my 401k to keep her going ... So there went my nest egg; there went my security. Oh, and that's gonna keep me in the workforce longer, probably longer than I may have originally intended to work.

Similarly, Participant 43 revealed:

I still have a school-aged child, so I didn't really consider not working. I don't think it's a complete motivation that I'm working because I have a school-aged daughter. That's a part of it, but it is not all ... I also have a supportive relationship with my spouse. It's a motivation to support her, but also, I'm motivated by the fact that she supports me which is also great.

Participant 10 also shared, "Right now, my needs were slighter higher ... my drive was more driven by my youngest child just getting her doctorate ... so that was a great need. That takes money."

In contrast, having fewer familial responsibilities enables participants to feel they have more freedom to select the work they do. For example, Participant 57 revealed, “I do not have a lot of commitments like others ... I’m not married, I don’t have children. So I get to do what I want, how I want to live.” Participant 18 also noted, “I don’t have very many obligations, you know. My child is grown up and independent. My parents are gone now. So I don’t have anybody that’s dependent upon me in that way.”

Work provides income to fulfill familial responsibilities. At the same time, it also serves as a valid diversion from familial responsibilities. For example, Participant 100 candidly disclosed, “One reason why I work also is because I don’t want to be relegated to the position of just being the nanny to my step-grandkids.” Similarly, Participant 93 narrated:

I have my mother-in-law [who lives with us]. She’s 85, and she’s got Parkinson’s. She’s got dementia. So we have caretakers now who come in because it was getting to be too much to try and care for her, because you know, she almost burnt the house time one time [while] boiling peanuts ... But yeah, work gets me out of the house too, because it’s kind of a hard environment to be in sometimes, 24/7 care. So it helps to get out.

From these examples, it can be construed that the sense of responsibility one feels toward their family is a factor that influences the older workers’ motivation to continue to work.

Subtheme 5.3: Elders as Role Models. The subtheme *Elders as Role Models* emerged from the responses of study participants that pertain to their parents, grandparents, or other older people who they pattern themselves after. Among the participants, 67% mentioned this subtheme in their interviews.

For example, participants referenced their parents or other older close relatives when discussing their motivation to continue to work, thus revealing an aspect of their future time perspective on their expected lifespan. “We have longevity in our family,” announced Participant 100. “My mom passed away at 96. My dad passed away at 88 ... And I have an aunt that lived to

be 102. So, everyone lives into their 80s or 90s.” Participant 10 also mentioned, “The second part that impacted me greatly was [that] I was very fortunate in having my parents around for a long time. My dad lived to 101.”

The participants’ perspective of their expected lifespan influenced their need for financial security in their retirement savings. For example, Participant 39 said: “Yeah, well, I look at just the general longevity of my family. Yeah, we live pretty long. It’s a blessing ... but also takes a lot of planning to make sure that you actually enjoy your last years.”

Older relatives also inspired how participants view retirement, such as the case for Participant 43 who believed in staying active:

I mentioned my parents. You know, when my mother was still around ... when she first retired ... She was working with the AARP, so she joined, you know, the local chapter. She ran for office; she started teaching computer classes. I don’t know where that came from, but she did those things. Yeah, so she set the example. That was a part of it. But yeah, I mean, my parents, you know, were active until the end of their lives. And I think that’s also an example for me.

Participant 88 shared another example:

One of the things I credit this [feeling young] to my parents because they were lifelong learners. My father ... he read the New York Times faithfully every day. He could carry on conversations with someone 10 years old as well as someone 42 years old. And he used to say, the day you die is the day you stop learning. You can die when you’re 10, or you can die when you’re 90. It’s your choice. And I have always believed that to be very, very true.

Contact and exposure with older relatives and other role models whom they wish to emulate influence the participants’ views of retirement and consequently, their motivation to work.

Category 4: Influential Institutions

The fourth and last category, *Influential Institutions*, was derived from the responses of the interviewed participants on the influence of government, industry norms, and common

stereotypes in the state and country they lived in. This category has one theme and two subthemes, which are covered in the subsections below.

Theme 6: Societal Systems. This theme was coded as an expression of the different elements of society, particularly government programs and industry-wide practices, in conjunction with the older worker's motivation to continue to work. Among interviewees, 92% mentioned how these society-wide programs and practices influenced their motivation to work. The theme *Societal Systems* consists of two subthemes: (a) *Government and Public Benefit Programs*, and (b) *Challenges in Finding Employment (Ageism)*.

Subtheme 6.1: Government and Public Benefit Programs. The subtheme *Government and Public Benefit Programs* emerged from the responses of study participants that pertain to older-age-related programs sponsored by the government or other public organizations. References included Social Security, Medicare, military benefits, and pension. Among interviewees, 75% mentioned this subtheme in their interviews.

The availability and eligibility for retirement-related government-sponsored programs were a signal or reminder to participants about their age. For example, Participant 57 mentioned, "Now I gotta tell you. When you start doing the Medicare crap and Social Security, it puts you in a whole different state of mind that, hey, I'm in a different stage of my life right now." He added, "I believe the age standards are driven by the government and society. It's not the individual. We just have to just start worrying about it, you know?" He further explained:

I think now that I've gone through the horrors of Medicare and Social Security ... I think that's really where the age, the numbers come into play ... Especially with Social Security ... you can start drawing social Security at 66, or you can defer it until 70 [to get maximum benefits]. And then you take it no matter what. You know, I think society sets these age standards ... I think, yeah ... I think society is driving these numbers.

When asked when she planned to retire, Participant 39 (age 63) also shared, “My plan? At least until 70. Yeah, I want to max out [of Social Security benefits]. Because if I live as long as my mother, I’m gonna have to max out.” Participant 95 (age 67) shared similar sentiments about her intention to work until 70 years old, saying, “I wanted to make certain ... that I was able to meet that maximum amount, you know, of Social Security.”

Health insurance was another age-related consideration for the participants. In the United States, the eligibility for government-sponsored Medicare is at age 65 (U.S. Centers for Medicare and Medicaid Services, n.d.). Explaining why he was motivated to find employment at age 64, Participant 81 said, “I gotta have healthcare. Especially as I get older, I need the insurance.” However, participants who are older than 65 also mentioned Medicare as a factor in their motivation to work, albeit from the lens of insufficiency of Medicare coverage. For example, Participant 77 (age 77) disclosed, “Medicare doesn’t cover a lot of things. So, you have to be real careful ... I have a chronic back condition, you know. I have to take medication for that. And Medicare does not cover that.”

Therefore, HR policies that allow employees who are 65 and older to continue to be on their company-sponsored health insurance programs in conjunction with Medicare were viewed as a benefit. For example, Participant 39 shared:

One of the definite pluses [with my company] is ... even with our health insurance, we don’t force people out when they become Medicare-eligible ... They can continue to stay on our plans. Some companies, you age out of health benefits, or you have to go on to Medicare, the company will no longer provide company-paid, you know, company benefits. Yeah, we don’t force people out, or their spouses. They can continue, you know, at that point, if they have Medicare, it will be secondary to our insurance.

Data collected demonstrated how retirement-related policies and programs are a factor in influencing older workers' motivation to extend their working lives beyond the traditional retirement age.

Subtheme 6.2: Challenges in Finding Employment (Ageism). The subtheme *Challenges in Finding Employment (Ageism)* emerged from the responses of study participants that pertain to past experiences with seeking employment, particularly the difficulties they encountered as older job seekers. References included experiences with sudden job losses, age discrimination on the job or during the recruitment process, and accepting job offers with a pay cut. Among the interviewees, 92% mentioned this subtheme.

Employees of all ages can experience job losses and difficulties in finding employment, but participants in this study contrasted their recent experiences with their younger years and revealed added challenges due to their age. For example, Participant 93 recalled:

When I was looking, I would definitely say there is ageism out there ... I ran into a number of, you know, "You're overqualified; we can't afford you" ... Like you never made me an offer and you're assuming that I'm looking for income? I'm not looking for income replacement. Don't assume that ... That's not what I'm looking for ... Like, I'm just looking to contribute.

Participant 77 shared similar experiences:

[Employers] see age as a real barrier. I think that once you hit 65, you know, [they] kind of put [you] on an ice floe and send you out to the sea, you know, because you're not ... you're not important to them anymore. And I've experienced that. It makes me angry, but there's nothing I can do. I have been on interviews, and I, I think I've done you know, fairly well, but no call backs, no offers ... It's very subtle ... They don't really want to come out and say it.

She later added, "I think there's a lot of age bias out there. I have been looking for full-time work for over five years." At age 77, she had been accepting projects on a part-time basis based on availability of projects despite her desire to work more because of difficulties in finding full-time employment.

When they found employment in their late 60s and beyond, participants described moments of trepidation. For example, when sharing about starting her new job in her 70s, Participant 100 mentioned, “I was scared. I really thought I would be discriminated against. I’m not sure how much. Some of them know how old I am. I’m definitely the oldest one that works in [my department].”

Participants acknowledged not taking job security for granted. Many have experienced sudden job losses whether through layoffs or forced retirement. They recognize that economic conditions change, and the labor market may not always have a need for the skills they offer. For example, Participant 88 brought up the impact of the economic downturn in 2008 on her employment, saying, “I was laid off in the recession of 2008 to 2010.” Participant 18 also shared, “I watched many of my colleagues get laid off who are older. Yes, they [the executives] weren’t worried [about age discrimination lawsuits].”

Participant 81 noted, “People are hiring, firing people all the time. I’ve had four rounds of layoffs in the last 10 years.” Participant 77 also shared:

It gets even worse. I looked around for a job, and because I was older at that time, people and organizations were reluctant to hire me ... Eventually I found a job at [organization], and I had a boss who found that I was close to retirement and was so mean, like ... give me an assignment and then change her mind. And I had to accommodate that, and when I did, that was still not good enough. And she removed me from my job. So, I had to file an age discrimination report ... I did, which was difficult ... But I felt like I had to do it, and the only safe way out ... was to retire. So, I was forced into retirement [at age 70].

Similarly, Participant 88 felt she was forced to retire before she was ready:

What they did at the very end was that they decided to write me up on a PIP [Performance Improvement Plan]. And we all know what happens with PIPs ... Well, I’m not stupid. I went for money.... Literally, I had 48 hours to decide if I was going to take the money and retire.

Other companies persisted with mandatory retirement ages as a company tradition:

I worked at [company] until I was 65 years old ... after working over 40 years. I was a vice president of our company. In our business, if you are executive level position, we all retire at age 65 ... just like aviation pilots; when you turn 60, you lose your pilot license. Same thing with [our industry]. If you're an executive, you retired at 65. And it's a good reason for that, because we want to give younger people with the latest technology know-how to come and provide additional input.

When asked about their experience with job searches, Participant 39 replied, "It's horrible. Especially at my age." She described it as, "Everything is great. Everything is great. And then they meet you, and now suddenly everything falls apart." Participant 81 also mentioned:

I do get the impression that it's harder to get hired if you're older. I mean, that's kind of the general opinion of people that it can be harder. And I'm saying my personal experience is consistent with the popular opinion that there are people who are hesitant to hire older people for whatever the reasons are. ... The process of going through the interviews and actually landing the job is hard. I kept a spreadsheet; I had something like 15 places that actually engaged with me. And some of them went for, like, up to the point of ... the full interview process, and then said no.

Furthermore, participants reported accepting job offers for less pay. Participant 39 narrated, "I was out of work, so anything is better than nothing, right? But when I look at my total, between bonuses and everything else previously, I'd say I took probably about a 15–20% pay cut when I came here." Participant 95 also shared:

When I came to work where I am now, I make a third of what I made prior to moving into this position. But I'm okay with that. Because... I'm in more control of what I'm doing, who I'm doing it with. And I make that choice.

Participant 57 acknowledged, "The opportunities seem to get smaller and smaller and are limited now. Biggest limitation, I would say, is myself and just the perception that, that I'm older, and people don't want to deal with me."

These challenges to find and retain employment made participants hesitate to leave jobs. Participant 100 mentioned:

There's a place right across [my house] that I could walk to. I didn't apply although they ... they're always looking for [my specialized skill]. First of all, there's the age factor like, do I really want to do this? Do I really want to go through the screening process and all that? And then, how long am I really going to be able to do this?

HR policies that are intentionally designed to remove bias help older workers who are seeking employment. For example, Participant 93 described how he found a new job in the government sector at age 62 after being a senior leader in the private industry for decades:

[This organization] happens to have a very scripted process on their recruitment process. There's no personality ... no bias around sexual orientation or gender or minority. They already have canned questions. Based on how you answer, it's those questions only.... It's probably why I'm here. I mean, I checked all the boxes, right? I don't think they took into consideration that, oh, by the way, he's also got more experience over what we're asking for.

Participants were aware and had experienced the challenges of finding employment as an older worker. Therefore, many appreciated the opportunity to work for pay while also recognizing the fundamental needs of having the required skills (mental cognition). For example, Participant 81 noted, “[Work] is an opportunity for me to get the things I need—the respect, the money, the relationships. It's all of those.” Participant 43 also mentioned:

I do feel that it is a gift to be able to do that [work] because I do think there are headwinds as we get older in the workplace.... But I also think it's important to continue to challenge yourself to understand, are you relevant in the same ways that you were before?

Data showed that many older workers had experienced job losses and difficulties with job applications, which influence their level of needs satisfaction and frustration, such as financial security (e.g., taking pay cuts) and competence (e.g., having relevant skills).

Summary

Deductive and inductive coding were used to conduct thematic analysis cycles with the rich qualitative data from interview transcripts with 12 working adults aged 62 to 77 years to

identify factors that influence their motivation to continue to work. Findings indicate that multilevel factors influence motivation to work. At the core was the individual's fundamental need for financial security and the fundamental prerequisite for physical stamina and mental cognitive abilities to meet the responsibilities of their work. These needs were interwoven with the individual's psychological need for purpose and significance, autonomy, competence, and relatedness. The next level of factors was influenced by their everyday surroundings—both past and present—such as their families and their organizations. The outermost layer consisted of societal systems such as government retirement programs and societal-wide challenges in employment for older workers due to ageist beliefs and behaviors.

Conclusion

Chapter 4 reported the results from a mixed methods study that collected data on the complex and multilevel factors that influence the motivation of older adults to continue to work beyond traditional retirement age. Data collection was conducted through 124 individual responses to a work motivation online survey and from 12 individual interviews with older workers across the United States. Although the size of the study population was not exceptionally large, the data collected was rich and repeatedly reveal statistically significant findings.

Quantitative data from an online survey instrument and qualitative data from individual interviews and an open-ended online survey questionnaire revealed insights into the fundamental factors on an individual level and how they interplay with next-level environmental and societal factors. Quantitative data analysis highlighted the importance of autonomy in increasing the intrinsic motivation of older workers, which was corroborated by the statements from the qualitative interviews. Qualitative data analysis surfaced the importance of internalized beliefs,

needs satisfaction, everyday surroundings, and societal systems in the motivation of older workers. In the next chapter, I will provide a summary of the study, recommendations, implications of future research, and research limitations.

CHAPTER 5: CONCLUSIONS, RECOMMENDATIONS, AND LIMITATIONS

Autumn is really the best of the seasons;

And I'm not sure that old age isn't the best part of life.

—C.S. Lewis

This study utilized a mixed methods approach to uncover the factors that influence the motivation of older adults to continue to work beyond the traditional retirement age. This chapter covers the summary of the study, interpretation of findings, research limitations of the study, implications for future research, and recommendations for practice.

Summary of the Study

The results and findings of this study present the motivations of older adults to extend their working lives. The importance of this study is due in part to the dramatic increase in life expectancy over the past century. As people live longer and stay healthier longer, more adults above 65 will need to or want to work. The U.S. Bureau of Labor Statistics has projected that the number of workers aged 65 and above will increase by 75% in the United States by 2050, in contrast with an increase of only 2% in workers aged 25 to 54 over the same period (Toossi & Torpey, 2017).

This study aimed to contribute to the body of knowledge on the needs and motivations of older adults in the workplace to help support and retain older workers in such a way that the continued participation of older workers in the labor market benefits the individuals themselves, the organization they work in, and the society they live in. Using self-determination theory (SDT) and socioemotional selectivity theory (SST) as theoretical foundations, this study aimed to bring forward the lived experiences of a cross-sectional group of older workers aged 62 and

above in the United States and identify predominant factors that influence their motivation to work.

Utilizing a mixed methods approach, data was collected through surveys and individual interviews from older workers across the United States. Quantitative data analysis and qualitative data analysis were conducted for significant findings to emerge. I will present the findings of this study in the next section.

Interpretation of Findings

The purpose of this study was to explore the motivations of older workers to extend their working lives. The primary research question for this study was:

Research Question: What do older workers identify as factors that influence their motivation to continue to work beyond the traditional retirement age?

Quantitative and qualitative data analysis from this study revealed a complex set of factors that influenced older workers' motivation to continue to work. The four key findings that emerged from this study were: (1) older adults with high intrinsic motivation were found to be more likely to continue to work beyond traditional retirement age than those with extrinsic or introjected motivations; (2) factors that increase the intrinsic motivation of older workers include finding a sense of purpose, competence, autonomy, and relatedness at work; (3) the mindset of older workers, shaped by their internalized beliefs and values over decades of lived experiences and their growing awareness of the finite nature of their remaining years, influences their motivation to work; and (4) older workers appreciate the opportunity to work but perceive a lack of organizational support in sustaining their participation in the labor force.

Older workers expressed a multifaceted perspective toward work motivation. They have internalized decades of their lived experiences in individual ways to uniquely shape their

mindsets and beliefs about aging and retirement. Having experienced ageism at work and multiple challenges in the workplace over the years, older workers appreciate the opportunity to work at their age. Yet, their optimism and enthusiasm for work is tempered by the work environment and company climate that shape their everyday lives. Direct managers, in particular, play a pivotal role in motivating the older worker who wants to be respected for their decades of experience. Nonetheless, how these external factors are internalized and the extent to which they impact the motivation to work is subjective and personal in nature.

Older workers reported having higher levels of intrinsic and self-determined motivation to continue to work in contrast with amotivation or externally regulated motivation, e.g., motivation through pay or prestige. They reported that, unlike in their younger years, introjected forms of motivation, such as increasing their power or boosting their ego, were not as appealing to them in the later stages of their career. At the same time, foundational factors that are pivotal determinants for extended working lives include the assurance of financial security and the demonstration of requisite levels of physical stamina and mental cognition commensurate with work demands, any of which can potentially supersede other motivational factors. Besides their fundamental needs for financial security, physical stamina, and mental cognition, older workers have four main psychological needs: purpose, autonomy, competence, and relatedness.

Work provides a channel for older adults to experience purpose and significance, at a time when many of them start feeling unseen or irrelevant by society. The sense of being needed and relevant is quite personal, however. It may spring from doing work that involves generativity, giving back, helping others, or contributing to society or a cause larger than oneself; or it may come from a cause closer to the home of the older worker, such as taking care of or providing for a loved one who is dependent on them. For others, work simply provides a clear-

cut reason to get up in the morning and get out of the house. Thus, the sense of purpose originating from work can have different meanings for different people.

Autonomy is a deep-seated psychological need for older workers. As seen in the survey responses to an open-ended question on work motivation, rarely do older workers identify their need for autonomy as crucial for them to continue to work. However, the responses to the survey questions and the personal stories and reflections they shared in the interviews demonstrate the pervasiveness and the importance of the psychological need for autonomy, e.g., how having financial security gives older workers the sense of freedom to choose employment or retirement, which then drives their sense of autonomy toward work.

Certain sectors and levels of seniority in the workplace afford more autonomy than others, which leads to higher levels of self-determined motivation to work for select groups of older workers. Quantitative data analysis revealed that older workers who expressed the motivation to work as long as possible reported higher levels of autonomy satisfaction (AS). This was in contrast to the lower levels of AS reported by individual contributors, front-line managers, and those who planned to retire between the ages of 64 and 68, which is the age range when many retirement-related benefits begin for older Americans and that serve as a trigger for retirement for many Americans (Social Security Administration, n.d.; U.S. Centers for Medicare and Medicaid Services, n.d.). Furthermore, industry sectors that have more stringent requirements and policies, such as government and healthcare, reported higher levels of autonomy frustration (AF) among older workers in different industries. Autonomy frustration (AF) was correlated with amotivation (AMO), i.e., older workers who do not experience autonomy at work are more likely to leave the workforce or not be motivated to work. On the other hand, autonomy satisfaction was positively correlated with intrinsic motivation to continue

to work. Therefore, autonomy is an understated but very important factor for extending working lives.

Competence is another basic psychological need that is at the core of SDT (Deci & Ryan, 2012; O'Hara, 2014). Older workers in the study expressed high levels of competence or confidence in their capabilities and skills to contribute and perform at work regardless of age, gender, education level, industry sector, or level/role at work. Given that the participants of this study were all older adults who continued to work past the age of 62, this level of confidence likely contributed to their success in finding employment as an older worker. This aligns with the findings of the qualitative data analysis on meeting the fundamental need for mental cognition and fulfilling the psychological need for competence. Older workers in the study also demonstrated a growth mindset and passion for lifelong learning, which potentially helped them continue to develop the mental cognition abilities that were required for them to continue to work as well as empower them to overcome ageist stereotypes and challenges in finding employment at an older age.

Relationships are very important for older workers, including work relationships and familial relationships. Quantitative data analysis revealed that older workers who expressed the motivation to work as long as possible reported much lower levels of relatedness frustration (RF) compared to those who planned to retire between the ages of 64 and 68. Qualitative data analysis supported the finding that older workers who do not experience strong, healthy relationships at work tend to leave the organization. Although the conceptual framework of the study included socioemotional selectivity theory (SST; Carstensen, 1992), which proposed that the priority of older workers shifts from growth goals such as acquiring knowledge to emotional stability goals such as savoring experiences with others, this was not addressed in the study because

participants rarely discussed setting goals for the future. This may be due in part to the interview design, although it may also reflect the reality of the group of people who were interviewed. The study did not find significant differences between the prioritization of psychological needs among older workers.

In conclusion, the quantitative and qualitative exploration of older workers' motivation to continue to work revealed a complex set of factors, ranging from highly individual mindsets to nationwide government programs. Older workers appreciate the value of having employment, yet they also recognize the need to fulfill their psychological needs for purpose and significance, autonomy, competence, and relatedness. As the number of older workers increases over the next few decades, it is crucial for families, organizations, and governments to address the needs of older workers to promote the extension of working lives and a stronger economy.

Research Limitations

This study's strength lies in its mixed-methods design and diverse sampling of older workers across geographical regions, professions, and industry sectors in the United States. The combination of a quantitative survey with qualitative interviews for data collection enhances the breadth and the depth of the study findings and provides a comprehensive understanding of the factors influencing the motivation of older workers to extend their working lives.

At the same time, this study had limitations that should be acknowledged. First was my own positionality as a mid-career professional in corporate America, which had also shaped my personal bias toward the role of individuals and the responsibility of organizations in promoting longevity in the workplace. In qualitative research, the researcher is also an instrument in the analysis, i.e., my interpretation of the data could be influenced by my bias (Ravitch & Carl,

2019). I mitigated this risk through peer reviews, reflexivity memos, and dialogic engagement with my peers to increase my awareness of my biases and address them accordingly.

Another limitation was the limited size and scope of the study population from both a quantitative and qualitative point of view. A larger group of participants may provide more perspectives. Although I tried to minimize this limitation by recruiting as broadly as possible across different states in the United States through a variety of channels, sampling bias could still occur due to the limited scope and time for recruitment in this study. For example, 57% of the study participants held graduate degrees, which is not reflective of the general U.S. population. Furthermore, the responses of the participants were from a single point in time. Human motivation could change based on their changing circumstances and shifting moods; over time, their motivation to work could also change. This limitation was minimized by having a mixed-methods approach that enabled a deeper and more comprehensive analysis of data from multiple sources.

The data of this study was also largely based on self-reported data from the study participants, which could be affected by response biases such as social desirability bias, acquiescence bias, extreme response bias, and recall bias. Study participants may have responded to survey or interview questions to satisfy what they believe were socially acceptable norms rather than their honest thoughts. Furthermore, self-reported data could also be largely dependent on the depth of self-reflection and self-awareness of the participant. This limitation was mitigated by asking probing questions during the interview process.

Notwithstanding these limitations, the strengths of the study with its cross-sectional study population and mixed-methods design enabled it to uncover significant findings that contribute to a broader and deeper understanding of the motivations of older adults to stay in the workforce

beyond the traditional retirement age. The findings of the study could thus provide helpful insights for future research and useful recommendations for practice in organizations.

Implications for Future Research

The findings of the study on factors that influence the motivation of older workers to continue to work have significant theoretical implications for understanding the complex and multilevel relationships of individual, organizational, familial, and societal factors in shaping the decision of older adults to either work or retire. The results contribute to the growing body of literature on longevity in the workplace, particularly through a systems approach.

This study extends the application of the Self-Determination Theory (SDT) framework to the motivation of older adults to work beyond 60 years of age as supported by the results of the BPNSFS and WEIMS survey questions in this study. The study highlights the importance of self-determined motivation (e.g., intrinsic motivation) in supporting healthy working lives for older adults. It also suggested the applicability of a two-factor approach in needs satisfaction and needs frustration in the work motivation of older adults.

However, the study also reveals individual factors that were not accounted for in the BPNSFS scale (i.e., purpose and significance). Erikson and Erikson's (1998) proposed rise of generativity in middle adulthood as part of adult development addresses this factor, although the study suggests that generativity—i.e., the need to nurture younger people to promote one's legacy and long-term survival of the species—is not guaranteed for everyone above a certain age, nor is it the only means toward achieving a sense of purpose for older workers. Helping others regardless of their age, working on larger causes such as climate change and democracy, or providing financial security for loved ones are also potential sources of purpose. Therefore,

further research may be of use to delve deeper into the need for purpose and significance among older workers.

This study highlighted the multilevel set of factors influencing older adults' work motivation, ranging from individual factors to everyday surroundings and societal influences, thus opening up possibilities for future research. For example, longitudinal studies that measure the interplay between factors over an extended period of time would provide valuable insights into sustaining the motivation of older workers and maximizing the quality and duration of their working years. Comparative studies that analyze the interplay of these factors in older adults who chose to continue to work in contrast with those who chose to retire would also provide deeper insights into the level of influence of the factors and their impact on the behaviors and decisions of older workers.

Future research could also investigate how certain demographic criteria, such as level of education, level/role at work, or gender, influence not only the motivation to work but also the ability to find employment. Furthermore, research can be conducted in different industry sectors, regional settings, and cultural contexts to investigate how identified factors such as autonomy and competence may vary across industries, including those who are self-employed. Future research with larger populations and longitudinal studies that compare results over an extended period of time could also provide additional insights.

Future studies can also further explore the SDT-related variables in this study. For example, it may be worthwhile to examine the variables related to competence satisfaction (CS) and its inverse, competence frustration (CF) to measure their relationship with the individual's health conditions and employment status. Data from this study could be used as a basis for further research that builds on this study.

Researchers should collaborate with employers, community partners, and policy makers to explore effective and innovative approaches to support the extension of working lives in the near future and ensure that future research is grounded in current real-world needs and perspectives. The adoption of a collaborative research methodology can yield more findings with increased relevance and impact while also cultivating a partnership and sense of ownership among key stakeholders, thereby enabling more older adults to healthily extend their working lives.

Recommendations for Practice

The study's findings on the factors that influence the motivation of older workers to continue to work have significant practical implications for individuals, organizations, and policy makers seeking to promote longevity in the workplace.

For older workers, the study highlights the importance of the fulfillment of fundamental needs to unlock the next levels of psychological needs and other factors of motivation. As an example, the study highlights the importance of financial security in empowering older workers to have a sense of autonomy at work. As another example, the study highlights how physical stamina commensurate with the requirements of the job is critical for older workers to maintain relevance in their roles in the workplace. Therefore, individuals can prepare for longevity in the workplace by increasing their awareness and abilities to fulfill their fundamental needs of financial security through increasing their retirement savings or planned retirement income (e.g., investment dividends, pension plans, passive income from rentals or royalties), maintaining their physical stamina, and bolstering their mental cognition through lifelong learning habits. Sustaining a growth mindset characterized by curiosity is crucial for acquiring and maintaining pertinent skills, thereby ensuring ongoing employability.

At the same time, organizations have a significant role in enabling the extension of working lives. To create a workplace that is more inclusive of age diversity, organizations need to invest in developing leaders in the company to combat ageist behaviors and policies, build trust and healthy relationships cross-generationally, and develop the leadership skills of company leaders so as to promote belonging and respect for everyone at work. Upskilling and reskilling opportunities, along with challenging work assignments, should be available and accessible to employees without any age considerations to meet the basic psychological need competence of older workers. Furthermore, organizations should prioritize investing in programs and policies that provide knowledge and awareness regarding financial security, well-being, and other fundamental needs of older workers.

Furthermore, organization-wide HR policies such as hiring practices, talent development processes, employee benefit programs, and diversity programs must also consider diversity in age. For example, flexibility in work arrangements (e.g., flexible scheduling, part-time work, or hybrid work arrangements) can promote a sense of autonomy. Insights from the study also provide recommendations for internal messaging within organizations. Following the theme of elders as role models, successes of older workers should be shared and celebrated to inspire and motivate their colleagues. When promoting training initiatives or other employee programs within the organization, organizations should recognize that learning can be a social process, which addresses the psychological needs for both competence and relatedness. Organizations should highlight the benefits associated with the psychological needs of relatedness and purpose (e.g., opportunities to make a difference or to build stronger relationships at work) rather than focusing only on the benefits that are externally regulated or introjected (e.g., promotions, power,

or prestige). Therefore, investment in understanding the unique needs of the older worker is crucial for supporting the extension of working lives in organizations.

For policy makers, whether in private corporations or government and public sectors, insights gained from this study suggest the importance of carefully evaluating both intended and unintended consequences of policy decisions in supporting the extension of working lives. For example, companies who offer health insurance benefits to their employees should continue primary insurance coverage for employees over 65 years of age despite their eligibility for Medicare health insurance benefits. To increase financial security, automatic enrollment in retirement savings plan should be on an opt-out basis rather than an opt-in basis. Organizations should focus on establishing programs and policies that foster inclusiveness and belonging at work for people of all ages. By instituting robust governance mechanisms, organizations can create an inclusive work environment and ensure that older workers have access to the necessary resources and competencies to retain their work motivation beyond the traditional retirement age.

Conclusion

In conclusion, this dissertation provides a comprehensive exploration of the complex factors that influence the motivation of older workers to continue to work beyond traditional retirement age, revealing important insights that can help shape the successful aging of older adults at work. Using a mixed-methods research approach that was grounded in self-determination theory (SDT), this study revealed a multilevel set of factors that influence work motivation of older adults.

The findings demonstrate that beyond older workers' fundamental need for financial security, physical stamina, and mental cognition, older workers have four main psychological needs, i.e., purpose, autonomy, competence, and relatedness. Their everyday environment and

societal conditions, which consist of their household situation, workplace environment, and government-sponsored retirement benefit programs, influence the satisfaction or frustration of those needs. Organizational support emerged as a key determinant for the extension of working lives. However, considerable challenges experienced by older workers in finding and retaining suitable employment, including systemic and institutional ageist behaviors and policies, need to be addressed.

To realize the full potential of older workers in the workplace and in society, a culture of belonging and learning must be fostered. A systems approach, combining the roles of the individual with the responsibilities of their organization and local society, is crucial in ensuring that older workers can experience successful aging at work and continue to be active and contributing members of society for many years beyond the traditional retirement age. By adopting the recommendations for future research and practice outlined in this dissertation, individuals, organizations, and government leaders can work toward creating a world that truly supports diversity in age, a world where people of all ages can thrive.

APPENDIX A

SURVEY QUESTIONS

Welcome to the research on Living Longer, Working Longer!

Introduction: This study is being conducted at the University of Pennsylvania to study the factors that influence the motivation of adults to continue to work beyond traditional retirement age. The data collected will help to identify ways in which organizations and individuals can better support extended working lives for those who need to or want to work longer.

Eligibility: You are eligible to participate in this survey if you are aged 62 or above and have done paid work (full-time or part-time) currently or within the past three years, primarily in the application and/or production of ideas and information (in contrast with manual/physical labor).

Participant Rights and Confidentiality: This survey should take about 12 minutes to complete. Your participation is completely voluntary. You may stop your participation in any part of the study without penalty. Furthermore, your responses will be confidential. All survey responses will be reported only in aggregate as a group, i.e., you will not be individually identified in any way.

If you have any questions about the study, please contact the researcher at minettec@upenn.edu.

NOTE: This survey is best taken on a **computer or a device with a large screen** such as an

iPad or tablet, although mobile devices such as smart phones are also supported.

By continuing with the survey, you agree that:

(a) you have read the above information

(b) you are at least 62 years of age and have been employed (with pay, whether full-time or part-time) within the last three years in the United States, and

(c) you consent to participate in this study voluntarily and may choose to terminate your participation at any time and for any reason.

Yes, I consent. Let's begin.

Your demographic information will help ensure we are collecting data across a diverse group of people. Completing this section with your information is much appreciated!

How do you describe yourself?

Male

Female

Non-binary / third gender

Prefer to self-describe _____

Prefer not to say

Choose one or more races that you consider yourself to be:

- White or Caucasian
- Black or African American
- American Indian/Native American or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander
- Other
- Prefer not to say

What is the highest level of education you have completed?

- Some high school or less
- High school diploma or GED
- Some college, but no degree
- Associates or technical degree
- Bachelor's degree
- Graduate or professional degree (MA, MS, MBA, PhD, JD, MD, DDS etc.)
- Prefer not to say

How many people live or stay in your household at least half the time? Please include yourself. _____

To add detail to the data collection, please indicate year of birth.

Use the full year (4 digits, e.g., 1960).

What is your current employment or work status?

- Working full-time in an organization
- Working part-time in an organization
- Self-employed (working for myself)
- Seeking employment (not retired)
- Retired (but have worked within the last three years)
- Other (please explain): _____

Which best describes the sector you work(ed) in?

- Government or public sector
- Academia
- Healthcare
- Private industry, including tech, services, finance, sales, nonprofits, etc
- Other (please describe): _____

Which one best describes your role at work? Select the one you most closely identify with.

- Executive
 - Mid-to-senior management
 - Front-line management or Team lead
 - Individual contributor
-

What is your current (or most recent) position and organization [optional]?

For example: Encore Fellow at Community Foundation, Teacher at Local Middle School,
Accountant at NASA, etc.

At what age did you or do you intend to retire or stop working for pay?

- ▼ ...for as long as I am able to work! (1)
 - ...62
 - ...63
 - ... 64
 - (individually list each age from 62 to 85)
 - ... 85+
-

For each item below, please mark the statement that comes closest to how you feel.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Many opportunities await me in the future. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the sense that time is running out. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My future is filled with possibilities. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My future seems infinite to me. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I could do anything I want in the future. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are only limited possibilities in my future. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is plenty of time in my life to make new plans. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As I get older, I begin to experience time as limited. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident I have sufficient financial resources and savings for my retirement. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recommend my current or most recent organization as an age-friendly workplace. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization has practices that are fair to all age groups. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Why do you do your work? Thinking about your current or most recent job, please indicate to what extent each of the following statements corresponds to the reasons you work.

I work...	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
... Because this is the type of work I choose to do to attain a certain lifestyle. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... For the income and/or benefits it provides me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because I derive much pleasure from learning new things. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because this work has become a fundamental part of who I am. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because I want to be very good at this work; otherwise I would be very disappointed with myself. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because I chose this type of work to attain my career goals. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... For the satisfaction I experience from taking on interesting challenges. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because it is part of the way in which I have chosen to live my life. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because I want to be a 'winner' in life. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because this type of work provides me with security and power. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because I want to leave my legacy to the next generations at work. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Because there is not much else I would rather do if I am retired. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't know why I work; the expectations in this job are unrealistic. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I ask myself why I still work; I don't seem to be able to manage the important tasks related to this work. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rank the following statements in the order corresponding to the reasons you work.

Use "1" for the most relevant reason, "2" for the next reason, and so on, through "8" for the least applicable reason.

_____ This work makes me feel useful and proud of myself. (1)

_____ This work allows me to improve my career prospects and build my resume. (2)

_____ Being at work makes me feel more connected with and/or valued by others. (3)

_____ Working helps improve my cognitive skills and keeps me sharp. (4)

_____ My job is a fun experience. (5)

_____ This work allows me to make a difference in someone's life. (6)

_____ This job allows me to learn new knowledge and skills. (7)

_____ This work gives me a sense of purpose. (8)

Using your own words, what are the top three reasons you work? List the most important reason first.

1: (1) _____

2: (2) _____

3: (3) _____

How do you feel at work? Based on your feelings about your job during the PAST 4 WEEKS (or if not working, your recollection about your most recent job), indicate to what extent you agree with each of the following statements.

AT WORK, I FEEL...

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
... a sense of choice and freedom in the things I undertake. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I feel excluded from the group/s I want to belong to at work. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I am confident that I can do things well on my job. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... the people I care about at work also care about me. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... most of the things I do on my job feel like "I have to". (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I have serious doubts about whether I can keep up and do things well. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...my decisions on my job reflect what I really want. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...people who are important to me at work are cold or distant towards me. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I feel capable at what I do at work. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I feel forced to do many things in my job I wouldn't choose to do. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I feel disappointed with my performance in my job. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I feel connected with people who care for me at work, and for whom I care at work. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... my choices on my job express who I really am. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I am competent to achieve my goals at work. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

... I feel pressured to do too many things on my job. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I feel close and connected with other people who are important to me. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I feel insecure about my abilities on my job. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... my daily activities at work feel like a chain of obligations. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I have been doing what really interests me in my job. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... people I spend time with at work dislike me. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I can successfully complete difficult tasks. (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... the relationships I have at work are just superficial. (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I feel like a failure when I am working because of the mistakes I make. (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I experience a warm feeling with the people I spend time with at work. (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... my organization continues to invest in my learning and development. (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I am contributing to the success of my organization and/or community. (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You have successfully completed the survey! This survey is the first phase of the study, and your participation is much appreciated. The next phase of the study consists of individual interviews (one hour over Zoom), which will add detail and depth to the study.

Would you be interested in helping to add meaning to the research by sharing your experiences and recommendations about working longer? You will meet with me (a doctoral student and researcher from the University of Pennsylvania) over a one-on-one Zoom interview. Your participation in the interviews would help inform the study and make workplaces more age-friendly! For questions, you can contact me at minettec@upenn.edu.

- YES, I'd be interested in participating in a 60-minute Zoom interview. (1)
- No, thank you. (2)
- I am not sure. Please contact me to discuss. (3)

Display This Question:

If You have successfully completed the survey! This survey is the first phase of the study, and your ... = 1

Or You have successfully completed the survey! This survey is the first phase of the study, and your ... = 3

Thank you for your openness to be interviewed! Please note that participation in an interview is voluntary and optional, and your information remains confidential. So that I may reach out to you to discuss the interview at your convenience:

Please provide your contact information.

- First Name (1) _____
- Last Name (2) _____
- Phone Number (use XXX-XXX-XXXX format) (3) _____
- Email Address (4) _____

You have successfully completed the survey! Please click the NEXT button below to submit your response.

Additional notes (Optional):

Do you have any comments for the research team or suggestions you would like this study to address?

THANK YOU for participating in the study to help people of ALL ages thrive at work!

Addendum: The tables below include items derived from the pre-validated Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) and Work Extrinsic and Intrinsic Motivation Scale (WEIMS) that have been rearranged by variable for clarity purposes.

Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) Items

Autonomy Satisfaction (AS)-associated items:

At work, I feel...

- ... a sense of choice and freedom in the things I undertake.
- ... my decisions on my job reflect what I really want.
- ... my choices on my job express who I really am.
- ... I have been doing what really interests me in my job.

Competence Satisfaction (CS)-associated items:

- ... I am confident that I can do things well on my job.
- ... I feel capable at what I do at work.
- ... I am competent to achieve my goals at work.
- ... I can successfully complete difficult tasks.

Relatedness Satisfaction (RS)-associated items:

- ... the people I care about at work also care about me.
- ... I feel connected with people who care for me at work, and for whom I care for at work.
- ... I feel close and connected with other people who are important to me.
- ... I experience a warm feeling with the people I spend time with at work.

Autonomy Frustration (AF)-associated items:

- ... most of the things I do on my job feel like "I have to".
- ... I feel forced to do many things in my job I wouldn't choose to do.
- ... I feel pressured to do too many things on my job.
- ... my daily activities at work feel like a chain of obligations.

Competence Frustration (CF)-associated items:

- ... I have serious doubts about whether I can keep up and do things well.

- ... I feel disappointed with my performance in my job.
- ... I feel insecure about my abilities on my job.
- ... I feel like a failure when I am working because of the mistakes I make.

Relatedness Frustration (RF)-associated items:

- ... I feel excluded from the group/s I want to belong to at work.
 - ... people who are important to me at work are cold or distant towards me.
 - ... people I spend time with at work dislike me.
 - ... the relationships I have at work are just superficial.
-

Work Extrinsic and Intrinsic Motivation Scale (WEIMS) Items in the Survey Instrument

Intrinsic Motivation (IM)-associated items

I work...

- ... Because I derive much pleasure from learning new things.
- ... For the satisfaction I experience from taking on interesting challenges.

Integrated Motivation (INTEG)-associated items

- ... Because it is part of the way in which I have chosen to live my life.

Identified Motivation (IDEN)-associated items

- ... Because this is the type of work I choose to do to attain a certain lifestyle.
- ... Because I chose this type of work to attain my career goals.

Introjected Motivation (INTRO)-associated items

- ... Because I want to be very good at this work; otherwise, I would be very disappointed with myself.
- ... Because I want to be a 'winner' in life

External Regulation (EXT)-associated items

- ... For the income and/or benefits it provides me.
- ... Because this type of work provides me with security and power.

Amotivation (AMO)-associated items

- ... I don't know why I work; the expectations in this job are unrealistic.

... I ask myself why I still work; I don't seem to be able to manage the important tasks related to this work.

APPENDIX B
INTERVIEW PROTOCOL

Interview Information:

Interviewer Name(s):

Name and Age of Person Interviewed:

Date and Time of Interview:

Type of Interview (in person/phone/video):

Recorded for Transcript: Y/N Notes Only Y/N

Introduction Protocol:

Thank you for agreeing to meet and speak with me today about your experience and motivations for working beyond one's early 60s. As you probably already know, I am a doctoral student at the University of Pennsylvania. As part of my studies, I am conducting research work that includes surveys and interviews that will provide deeper insights into the motivations of seasoned professionals to continue to work beyond the traditional retirement age.

Voluntary

Before we begin, I wanted to reiterate some of the things I have mentioned in our email exchange. First of all, you can choose to stop this interview at any point in time if you don't feel comfortable. You can also choose to skip and not answer any question as you prefer, and I will move on to the next topic. Your participation is completely voluntary.

Confidentiality

Everything you share will remain confidential. This means I have taken the necessary steps to protect our data in Google Cloud and my personal computer where the study data will be stored. Furthermore, in my dissertation document, your name will not be disclosed.

Permission to Record

I will be typing. On that note, it will be very helpful for research purposes to have a recording of the session for analysis after our call. The recording will be used to generate a written transcript, and when the study is over, the recording will be destroyed. Would you be willing to have our call recorded today?

Purpose of the Study

The topic of my study is longevity in the workplace, specifically on the motivations of individuals to extend their working lives beyond traditional retirement age. In the United States, the traditional retirement age is often perceived as early 60s. You have indicated that you have continued to work after 62. The purpose of this study is to understand the factors that influence your decision to continue to work, both from an individual perspective and an organizational perspective.

Potential Semi-Structured Questions

- Tell me about your work.
 - What does a typical day or week look like for you?
 - How engaged are you at work?
 - How long do you plan to stay?
- What motivates you to continue to work?
 - What role does work play in your life?

- How has your motivation evolved over time from when you were in your 20s or 30s?
- What's true in your life that supports and allows you to continue to work?
 - What, if any, has your organization done to accommodate and make it easier for you to continue to work?
- [Check In] How are we doing so far? Any clarifications?
- What stands in your way; what challenges have you faced as you continue to work?

Closing Questions

- Is there anything I did not ask that you would like to add?
- May I reach out to you if I need to clarify or ask for additional information from you?

Thank you for your time today!

APPENDIX C

STATISTICAL TEST RESULT TABLES (SPSS)

Appendix C includes the output of statistical test results generated from the SPSS tool. Common acronyms used are: Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS), Work Extrinsic and Intrinsic Motivation Scale (WEIMS), Autonomy Frustration (AF), Autonomy Satisfaction (AS), Competency Frustration (CF), Competency Satisfaction (CS), Relatedness Frustration (RF), Relatedness Satisfaction (RS), Intrinsic Motivation (IM), Integrated Motivation (INTEG), Identified Motivation (IDEN), Introjected Motivation (INTRO), External Regulation (EXT), and Amotivation (AMO) from Self-Determination Theory (Deci & Ryan, 2008).

Table A1

KMO and Bartlett's Significance Test Results for Non-BPNSFS and Non-WEIMS Survey Items

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.652
Bartlett's Test of Sphericity	Approx. Chi-Square	177.372
	df	3
	Sig.	<.001

Table A2

Eigenvalues Test Results for Non-BPNSFS and Non-WEIMS Survey Items

Component Matrix ^a	
	Component
	1
Environment_2	.912
Environment_3	.917
B3: Work_25	.756

Note. Extraction Method: Principal Component Analysis

a. 1 component extracted.

Table A3

Skewness and Kurtosis for Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) Measures

Variable	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
AF	.649	.217	-.146	.431
AS	-.639	.217	.596	.431
CF	.911	.217	.654	.431
CS	-.531	.217	-.399	.431
RF	1.165	.217	1.658	.431
RS	-1.236	.217	2.173	.431

Table A4

Statistical Tests for Normality of Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) Measures

Variable	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AF	.166	124	<.001	.944	124	<.001
AS	.121	124	<.001	.959	124	<.001
CF	.142	124	<.001	.893	124	<.001
CS	.185	124	<.001	.872	124	<.001
RF	.150	124	<.001	.902	124	<.001
RS	.170	124	<.001	.900	124	<.001

Note. a. Lilliefors Significance Correction

Table A5*Skewness and Kurtosis for Work Extrinsic and Intrinsic Motivation Scale (WEIMS) Measures*

Variable	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
AMO	.746	.217	-.325	.431
EXT	-.588	.217	.004	.431
INTRO	-.279	.217	-.403	.431
IDEN	-.580	.217	.400	.431
INTEG	-.370	.217	-.155	.431
IM	-1.238	.217	2.055	.431

Table A6*Statistical Tests for Normality of Work Extrinsic and Intrinsic Motivation Scale (WEIMS)**Measures*

Variable	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AMO	.261	124	<.001	.828	124	<.001
EXT	.153	124	<.001	.942	124	<.001
INTRO	.137	124	<.001	.958	124	<.001
IDEN	.148	124	<.001	.941	124	<.001
INTEG	.163	124	<.001	.921	124	<.001
IM	.201	124	<.001	.843	124	<.001

Note. a. Lilliefors Significance Correction

Table A7*Kruskal-Wallis Test Results for BPNSFS Measures and Recoded Age Group*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AF is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.495	Retain the null hypothesis.
The distribution of AS is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.446	Retain the null hypothesis.
The distribution of CF is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.702	Retain the null hypothesis.
The distribution of CS is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.879	Retain the null hypothesis.
The distribution of RF is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.349	Retain the null hypothesis.
The distribution of RS is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.342	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A8*Kruskal-Wallis Test Results for BPNSFS Measures and Recoded Anticipated Retirement Age*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AF is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.001	Reject the null hypothesis.
The distribution of AS is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.069	Retain the null hypothesis.
The distribution of CF is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.137	Retain the null hypothesis.
The distribution of CS is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.099	Retain the null hypothesis.
The distribution of RF is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.007	Reject the null hypothesis.
The distribution of RS is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.084	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A9

Pairwise Comparisons of Autonomy Frustration (AF) Between Recoded Anticipated Retirement Age Groups

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
[84+] - 99.00	-5.728	18.891	-.303	.762	1.000
[84+] - [79-83]	7.000	25.271	.277	.782	1.000
[84+] - [74-78]	7.775	21.143	.368	.713	1.000
[84+] - 98.00	-9.792	27.295	-.359	.720	1.000
[84+] - [62-63]	13.514	21.476	.629	.529	1.000
[84+] - [69-73]	14.625	19.023	.769	.442	1.000
[84+] - [64-68]	45.242	19.023	2.378	.017	.487
99.00 - [79-83]	1.272	18.891	.067	.946	1.000
99.00 - [74-78]	2.047	12.856	.159	.873	1.000
99.00 - 98.00	4.064	21.524	.189	.850	1.000
99.00 - [62-63]	7.786	13.397	.581	.561	1.000
99.00 - [69-73]	8.897	8.952	.994	.320	1.000
99.00 - [64-68]	39.514	8.952	4.414	<.001	.000
[79-83] - [74-78]	.775	21.143	.037	.971	1.000
[79-83] - 98.00	-2.792	27.295	-.102	.919	1.000
[79-83] - [62-63]	6.514	21.476	.303	.762	1.000
[79-83] - [69-73]	7.625	19.023	.401	.689	1.000
[79-83] - [64-68]	38.242	19.023	2.010	.044	1.000
[74-78] - 98.00	-2.017	23.526	-.086	.932	1.000
[74-78] - [62-63]	5.739	16.421	.349	.727	1.000
[74-78] - [69-73]	6.850	13.050	.525	.600	1.000
[74-78] - [64-68]	37.467	13.050	2.871	.004	.115
98.00 - [62-63]	3.722	23.825	.156	.876	1.000
98.00 - [69-73]	4.833	21.640	.223	.823	1.000
98.00 - [64-68]	35.450	21.640	1.638	.101	1.000
[62-63] - [69-73]	-1.111	13.583	-.082	.935	1.000
[62-63] - [64-68]	-31.728	13.583	-2.336	.019	.546
[69-73] - [64-68]	30.617	9.228	3.318	<.001	.025

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A10

Pairwise Comparisons of Autonomy Satisfaction (AS) Between Recoded Anticipated Retirement Age Groups

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
[64-68] - 98.00	-7.367	21.619	-.341	.733	1.000
[64-68] - [69-73]	-9.283	9.218	-1.007	.314	1.000
[64-68] - [62-63]	11.867	13.569	.875	.382	1.000
[64-68] - [79-83]	-12.450	19.004	-.655	.512	1.000
[64-68] - [74-78]	-27.150	13.037	-2.083	.037	1.000
[64-68] - 99.00	-28.671	8.943	-3.206	.001	.038
[64-68] - [84+]	-29.825	19.004	-1.569	.117	1.000
98.00 - [69-73]	1.917	21.619	.089	.929	1.000
98.00 - [62-63]	4.500	23.802	.189	.850	1.000
98.00 - [79-83]	5.083	27.268	.186	.852	1.000
98.00 - [74-78]	19.783	23.502	.842	.400	1.000
98.00 - 99.00	-21.304	21.503	-.991	.322	1.000
98.00 - [84+]	22.458	27.268	.824	.410	1.000
[69-73] - [62-63]	2.583	13.569	.190	.849	1.000
[69-73] - [79-83]	-3.167	19.004	-.167	.868	1.000
[69-73] - [74-78]	-17.867	13.037	-1.370	.171	1.000
[69-73] - 99.00	-19.387	8.943	-2.168	.030	.845
[69-73] - [84+]	-20.542	19.004	-1.081	.280	1.000
[62-63] - [79-83]	-.583	21.455	-.027	.978	1.000
[62-63] - [74-78]	-15.283	16.404	-.932	.352	1.000
[62-63] - 99.00	-16.804	13.384	-1.256	.209	1.000
[62-63] - [84+]	-17.958	21.455	-.837	.403	1.000
[79-83] - [74-78]	14.700	21.122	.696	.486	1.000
[79-83] - 99.00	-16.221	18.872	-.859	.390	1.000
[79-83] - [84+]	-17.375	25.246	-.688	.491	1.000
[74-78] - 99.00	-1.521	12.844	-.118	.906	1.000
[74-78] - [84+]	-2.675	21.122	-.127	.899	1.000
99.00 - [84+]	1.154	18.872	.061	.951	1.000

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A11

Pairwise Comparisons of Relatedness Frustration (RF) Between Recoded Anticipated Retirement Age Groups

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
[79-83] - 99.00	-3.654	18.824	-.194	.846	1.000
[79-83] - [74-78]	7.525	21.068	.357	.721	1.000
[79-83] - [84+]	-10.000	25.181	-.397	.691	1.000
[79-83] - [62-63]	12.042	21.400	.563	.574	1.000
[79-83] - [69-73]	17.742	18.955	.936	.349	1.000
[79-83] - 98.00	-27.042	27.198	-.994	.320	1.000
[79-83] - [64-68]	39.775	18.955	2.098	.036	1.000
99.00 - [74-78]	3.871	12.811	.302	.763	1.000
99.00 - [84+]	6.346	18.824	.337	.736	1.000
99.00 - [62-63]	8.387	13.349	.628	.530	1.000
99.00 - [69-73]	14.087	8.920	1.579	.114	1.000
99.00 - 98.00	23.387	21.448	1.090	.276	1.000
99.00 - [64-68]	36.121	8.920	4.049	<.001	.001
[74-78] - [84+]	-2.475	21.068	-.117	.906	1.000
[74-78] - [62-63]	4.517	16.362	.276	.783	1.000
[74-78] - [69-73]	10.217	13.003	.786	.432	1.000
[74-78] - 98.00	-19.517	23.442	-.833	.405	1.000
[74-78] - [64-68]	32.250	13.003	2.480	.013	.368
[84+] - [62-63]	2.042	21.400	.095	.924	1.000
[84+] - [69-73]	7.742	18.955	.408	.683	1.000
[84+] - 98.00	-17.042	27.198	-.627	.531	1.000
[84+] - [64-68]	29.775	18.955	1.571	.116	1.000
[62-63] - [69-73]	-5.700	13.534	-.421	.674	1.000
[62-63] - 98.00	-15.000	23.741	-.632	.527	1.000
[62-63] - [64-68]	-27.733	13.534	-2.049	.040	1.000
[69-73] - 98.00	-9.300	21.563	-.431	.666	1.000
[69-73] - [64-68]	22.033	9.195	2.396	.017	.464
98.00 - [64-68]	12.733	21.563	.591	.555	1.000

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A12*Kruskal-Wallis Test Results for BPNSFS Measures and Gender*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AF is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.382	Retain the null hypothesis.
The distribution of AS is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.182	Retain the null hypothesis.
The distribution of CF is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.823	Retain the null hypothesis.
The distribution of CS is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.805	Retain the null hypothesis.
The distribution of RF is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.388	Retain the null hypothesis.
The distribution of RS is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.126	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A13*Kruskal-Wallis Test Results for BPNSFS Measures and Ethnicity*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AF is the same across categories of Ethnicity.	Independent-Samples Kruskal-Wallis Test	.312	Retain the null hypothesis.
The distribution of AS is the same across categories of Ethnicity.	Independent-Samples Kruskal-Wallis Test	.666	Retain the null hypothesis.
The distribution of CF is the same across categories of Ethnicity.	Independent-Samples Kruskal-Wallis Test	.326	Retain the null hypothesis.
The distribution of CS is the same across categories of Ethnicity.	Independent-Samples Kruskal-Wallis Test	.396	Retain the null hypothesis.
The distribution of RF is the same across categories of Ethnicity.	Independent-Samples Kruskal-Wallis Test	.316	Retain the null hypothesis.
The distribution of RS is the same across categories of Ethnicity.	Independent-Samples Kruskal-Wallis Test	.460	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A14*Kruskal-Wallis Test Results for BPNSFS Measures and Level of Education*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AF is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.407	Retain the null hypothesis.
The distribution of AS is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.155	Retain the null hypothesis.
The distribution of CF is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.792	Retain the null hypothesis.
The distribution of CS is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.814	Retain the null hypothesis.
The distribution of RF is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.655	Retain the null hypothesis.
The distribution of RS is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.558	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A15*Kruskal-Wallis Test Results for BPNSFS Measures and Recoded Household Size*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AF is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.674	Retain the null hypothesis.
The distribution of AS is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.915	Retain the null hypothesis.
The distribution of CF is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.967	Retain the null hypothesis.
The distribution of CS is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.482	Retain the null hypothesis.
The distribution of RF is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.812	Retain the null hypothesis.
The distribution of RS is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.639	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A16*Kruskal-Wallis Test Results for BPNSFS Measures and Industry Sector of Work*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AF is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.027	Reject the null hypothesis.
The distribution of AS is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.454	Retain the null hypothesis.
The distribution of CF is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.124	Retain the null hypothesis.
The distribution of CS is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.403	Retain the null hypothesis.
The distribution of RF is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.984	Retain the null hypothesis.
The distribution of RS is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.516	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A17*Pairwise Comparisons of Autonomy Frustration (AF) Between Industry Sectors*

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
Other - Private Sector	21.654	9.930	2.181	.029	.292
Other - Academia	22.438	12.635	1.776	.076	.758
Other - Government	36.658	12.844	2.854	.004	.043
Other - Healthcare	-40.236	14.891	-2.702	.007	.069
Private - Academia	.783	9.930	.079	.937	1.000
Private - Government	15.004	10.195	1.472	.141	1.000
Private – Healthcare	-18.582	12.677	-1.466	.143	1.000
Academia – Government	14.221	12.844	1.107	.268	1.000
Academia - Healthcare	-17.799	14.891	-1.195	.232	1.000
Government - Healthcare	-3.578	15.069	-.237	.812	1.000

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A18*Kruskal-Wallis Test Results for BPNSFS Measures and Level/Roles in the Organization*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AF is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.087	Retain the null hypothesis.
The distribution of AS is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.006	Reject the null hypothesis.
The distribution of CF is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.265	Retain the null hypothesis.
The distribution of CS is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.534	Retain the null hypothesis.
The distribution of RF is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.384	Retain the null hypothesis.
The distribution of RS is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.252	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A19*Pairwise Comparisons of Autonomy Frustration (AF) Between Level/Roles in the Organization*

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
FLM – IC	-9.467	10.442	-.907	.365	1.000
FLM – MSM	20.610	11.576	1.780	.075	.450
FLM -EXEC	33.750	11.290	2.989	.003	.017
IC – MSM	11.143	8.549	1.303	.192	1.000
IC – EXEC	24.283	8.157	2.977	.003	.017
MSM- EXEC	13.140	9.566	1.374	.170	1.000

Note. FLM = Front-Line Manager; MSM = Mid-to-Senior Management; EXE = Executive; IC = Individual Contributor

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A20*Kruskal-Wallis Test Results for WEIMS Measures and Recoded Age*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AMO is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.387	Retain the null hypothesis.
The distribution of EXT is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.516	Retain the null hypothesis.
The distribution of INTRO is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.889	Retain the null hypothesis.
The distribution of IDEN is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.875	Retain the null hypothesis.
The distribution of INTEG is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.859	Retain the null hypothesis.
The distribution of IM is the same across categories of Recoded Age.	Independent-Samples Kruskal-Wallis Test	.370	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A21*Kruskal-Wallis Test Results for WEIMS Measures and Recoded Anticipated Retirement Age*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AMO is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.009	Reject the null hypothesis.
The distribution of EXT is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.137	Retain the null hypothesis.
The distribution of INTRO is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.584	Retain the null hypothesis.
The distribution of IDEN is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.262	Retain the null hypothesis.
The distribution of INTEG is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	.122	Retain the null hypothesis.
The distribution of IM is the same across categories of Recoded Anticipated Retirement Age.	Independent-Samples Kruskal-Wallis Test	<.001	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A22*Pairwise Comparisons of AMO Between Recoded Anticipated Retirement Age Groups*

Sample 1-Sample 2	Test Statistic	Std. Error	Std. test statistic	Sig.	Adj. Sig. ^a
[74-78] - [62-63]	11.367	15.606	.728	.466	1.000
[74-78] - 99.00	-18.318	12.218	-1.499	.134	1.000
[74-78] - [79-83]	-21.200	20.094	-1.055	.291	1.000
[74-78] - 98.00	-22.867	22.358	-1.023	.306	1.000
[74-78] - [69-73]	25.217	12.402	2.033	.042	1.000
[74-78] - [64-68]	43.600	12.402	3.516	<.001	.012
[74-78] - [84+]	-45.450	20.094	-2.262	.024	.664
[62-63] - 99.00	-6.951	12.732	-.546	.585	1.000
[62-63] - [79-83]	-9.833	20.410	-.482	.630	1.000
[62-63] - 98.00	-11.500	22.643	-.508	.612	1.000
[62-63] - [69-73]	-13.850	12.908	-1.073	.283	1.000
[62-63] - [64-68]	-32.233	12.908	-2.497	.013	.351
[62-63] - [84+]	-34.083	20.410	-1.670	.095	1.000
99.00 - [79-83]	2.882	17.953	.161	.872	1.000
99.00 - 98.00	4.549	20.456	.222	.824	1.000
99.00 - [69-73]	6.899	8.508	.811	.417	1.000
99.00 - [64-68]	25.282	8.508	2.972	.003	.083
99.00 - [84+]	27.132	17.953	1.511	.131	1.000
[79-83] - 98.00	-1.667	25.941	-.064	.949	1.000
[79-83] - [69-73]	4.017	18.079	.222	.824	1.000
[79-83] - [64-68]	22.400	18.079	1.239	.215	1.000
[79-83] - [84+]	-24.250	24.016	-1.010	.313	1.000
98.00 - [69-73]	2.350	20.566	.114	.909	1.000
98.00 - [64-68]	20.733	20.566	1.008	.313	1.000
98.00 - [84+]	22.583	25.941	.871	.384	1.000
[69-73] - [64-68]	18.383	8.770	2.096	.036	1.000
[69-73] - [84+]	-20.233	18.079	-1.119	.263	1.000
[64-68] - [84+]	-1.850	18.079	-.102	.918	1.000

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A23*Pairwise Comparisons of IM Between Recoded Anticipated Retirement Age Groups*

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
[79-83] - [64-68]	1.333	18.401	.072	.942	1.000
[79-83] - 98.00	-1.500	26.403	-.057	.955	1.000
[79-83] - [69-73]	15.750	18.401	.856	.392	1.000
[79-83] - [62-63]	19.222	20.774	.925	.355	1.000
[79-83] - 99.00	-37.103	18.273	-2.030	.042	1.000
[79-83] - [84+]	-46.500	24.445	-1.902	.057	1.000
[79-83] - [74-78]	46.650	20.452	2.281	.023	.631
[64-68] - 98.00	-.167	20.933	-.008	.994	1.000
[64-68] - [69-73]	-14.417	8.926	-1.615	.106	1.000
[64-68] - [62-63]	17.889	13.139	1.362	.173	1.000
[64-68] - 99.00	-35.770	8.659	-4.131	<.001	.001
[64-68] - [84+]	-45.167	18.401	-2.455	.014	.395
[64-68] - [74-78]	-45.317	12.623	-3.590	<.001	.009
98.00 - [69-73]	14.250	20.933	.681	.496	1.000
98.00 - [62-63]	17.722	23.047	.769	.442	1.000
98.00 - 99.00	-35.603	20.821	-1.710	.087	1.000
98.00 - [84+]	45.000	26.403	1.704	.088	1.000
98.00 - [74-78]	45.150	22.757	1.984	.047	1.000
[69-73] - [62-63]	3.472	13.139	.264	.792	1.000
[69-73] - 99.00	-21.353	8.659	-2.466	.014	.383
[69-73] - [84+]	-30.750	18.401	-1.671	.095	1.000
[69-73] - [74-78]	-30.900	12.623	-2.448	.014	.402
[62-63] - 99.00	-17.881	12.959	-1.380	.168	1.000
[62-63] - [84+]	-27.278	20.774	-1.313	.189	1.000
[62-63] - [74-78]	-27.428	15.884	-1.727	.084	1.000
99.00 - [84+]	9.397	18.273	.514	.607	1.000
99.00 - [74-78]	9.547	12.436	.768	.443	1.000
[84+] - [74-78]	.150	20.452	.007	.994	1.000

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A24*Kruskal-Wallis Test Results for WEIMS Measures and Gender*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AMO is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.856	Retain the null hypothesis.
The distribution of EXT is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.245	Retain the null hypothesis.
The distribution of INTRO is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.916	Retain the null hypothesis.
The distribution of IDEN is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.779	Retain the null hypothesis.
The distribution of INTEG is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.309	Retain the null hypothesis.
The distribution of IM is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.279	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A25*Kruskal-Wallis Test Results for WEIMS Measures and Ethnicity/Race*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AMO is the same across categories of Ethnicity/Race.	Independent-Samples Kruskal-Wallis Test	.490	Retain the null hypothesis.
The distribution of EXT is the same across categories of Ethnicity/Race.	Independent-Samples Kruskal-Wallis Test	.251	Retain the null hypothesis.
The distribution of INTRO is the same across categories of Ethnicity/Race.	Independent-Samples Kruskal-Wallis Test	.136	Retain the null hypothesis.
The distribution of IDEN is the same across categories of Ethnicity/Race.	Independent-Samples Kruskal-Wallis Test	.038	Reject the null hypothesis.
The distribution of INTEG is the same across categories of Ethnicity/Race.	Independent-Samples Kruskal-Wallis Test	.715	Retain the null hypothesis.
The distribution of IM is the same across categories of Ethnicity/Race.	Independent-Samples Kruskal-Wallis Test	.946	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A26*Kruskal-Wallis Test Results for WEIMS Measures and Level of Education*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AMO is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.291	Retain the null hypothesis.
The distribution of EXT is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.194	Retain the null hypothesis.
The distribution of INTRO is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.624	Retain the null hypothesis.
The distribution of IDEN is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.857	Retain the null hypothesis.
The distribution of INTEG is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.426	Retain the null hypothesis.
The distribution of IM is the same across categories of Education Level.	Independent-Samples Kruskal-Wallis Test	.583	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A27*Kruskal-Wallis Test Results for WEIMS Measures and Household Size*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AMO is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.389	Retain the null hypothesis.
The distribution of EXT is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.431	Retain the null hypothesis.
The distribution of INTRO is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.063	Retain the null hypothesis.
The distribution of IDEN is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.295	Retain the null hypothesis.
The distribution of INTEG is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.486	Retain the null hypothesis.
The distribution of IM is the same across categories of Recoded Household Size.	Independent-Samples Kruskal-Wallis Test	.843	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A28*Kruskal-Wallis Test Results for WEIMS Measures and Industry Sector of Work*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AMO is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.015	Reject the null hypothesis.
The distribution of EXT is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.084	Retain the null hypothesis.
The distribution of INTRO is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.482	Retain the null hypothesis.
The distribution of IDEN is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.299	Retain the null hypothesis.
The distribution of INTEG is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.328	Retain the null hypothesis.
The distribution of IM is the same across categories of Industry Sector.	Independent-Samples Kruskal-Wallis Test	.251	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A29*Pairwise Comparisons of Amotivation Scores (AMO) Between Industry Sectors*

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
Other - Private	13.550	9.437	1.436	.151	1.000
Other - Academia	19.250	12.008	1.603	.109	1.000
Other - Government	25.477	12.207	2.087	.037	.369
Other - Healthcare	-46.122	14.152	-3.259	.001	.011
Private - Academia	5.700	9.437	.604	.546	1.000
Private - Government	11.927	9.689	1.231	.218	1.000
Private - Healthcare	-32.572	12.047	-2.704	.007	.069
Academia - Government	6.227	12.207	.510	.610	1.000
Academia - Healthcare	-26.872	14.152	-1.899	.058	.576
Government - Healthcare	-20.644	14.321	-1.442	.149	1.000

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A30*Kruskal-Wallis Test Results for WEIMS Measures and Level/Role in the Organization*

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of AMO is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.145	Retain the null hypothesis.
The distribution of EXT is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.408	Retain the null hypothesis.
The distribution of INTRO is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.071	Retain the null hypothesis.
The distribution of IDEN is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.156	Retain the null hypothesis.
The distribution of INTEG is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.012	Reject the null hypothesis.
The distribution of IM is the same across categories of Level/Role.	Independent-Samples Kruskal-Wallis Test	.006	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Table A31*Pairwise Comparisons of Integrated Motivation Scores (INTEG) Between Level/Roles*

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
FLM – IC	-21.705	10.229	-2.122	.034	.203
FLM – MSM	22.060	11.340	1.945	.052	.310
FLM -EXEC	36.500	11.060	3.300	<.001	.006
IC – MSM	.355	8.374	.042	.966	1.000
IC – EXEC	14.795	7.991	1.851	.064	.385
MSM- EXEC	14.440	9.372	1.541	.123	.740

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table A32*Pairwise Comparisons of Intrinsic Motivation Scores (IM) Between Level/Roles*

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
FLM – IC	-29.143	10.110	-2.882	.004	.024
FLM – MSM	31.499	11.209	2.810	.005	.030
FLM -EXEC	37.500	10.932	3.430	<.001	.004
IC – MSM	2.356	8.277	.285	.776	1.000
IC – EXEC	8.357	7.898	1.058	.290	1.000
MSM- EXEC	6.001	9.263	.648	.517	1.000

Note. Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

APPENDIX D

KENDALL TAU CORRELATION BETWEEN BPNSFS AND WEIMS MEASURES

		AS	CF	CS	RF	RS	AMO	EXT	INTRO	IDEN	INTEG	IM
Corr. Coeff.	1.000	-.434**	.434**	-.291**	.453**	-.282**	.448**	0.082	0.008	-0.044	-.210**	-.325**
Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.225	0.911	0.519	0.002	0.000
N	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	-.434**	1.000	-.226**	.271**	-.342**	.374**	-.303**	0.068	.145*	.225**	.318**	.438**
Sig. (2-tailed)		0.000	0.001	0.000	0.000	0.000	0.000	0.321	0.032	0.001	0.000	0.000
N	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	.434**	-.226**	1.000	-.496**	.455**	-.250**	.413**	0.019	-0.010	-0.084	-0.114	-.284**
Sig. (2-tailed)		0.001		0.000	0.000	0.000	0.000	0.782	0.880	0.224	0.105	0.000
N	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	-.291**	.271**	-.496**	1.000	-.343**	.327**	-.391**	0.032	0.037	.141*	0.089	.301**
Sig. (2-tailed)		0.000	0.000		0.000	0.000	0.000	0.651	0.598	0.047	0.216	0.000
N	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	.453**	-.342**	.455**	-.343**	1.000	-.466**	.401**	0.052	-0.038	-0.087	-.207**	-.283**
Sig. (2-tailed)		0.000	0.000	0.000		0.000	0.000	0.449	0.579	0.206	0.003	0.000
N	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	-.282**	.374**	-.250**	.327**	-.466**	1.000	-.302**	0.029	0.050	.177**	.306**	.242**
Sig. (2-tailed)		0.000	0.000	0.000	0.000		0.000	0.668	0.459	0.010	0.000	0.001

<i>N</i>	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	.448**	-.303**	.413**	-.391**	.401**	-.302**	1.000	0.069	0.054	0.001	-.174*	-.349**
Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		0.343	0.458	0.993	0.019	0.000
<i>N</i>	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	0.082	0.068	0.019	0.032	0.052	0.029	0.069	1.000	.391**	.384**	0.139	0.094
Sig. (2-tailed)	0.225	0.321	0.782	0.651	0.449	0.668	0.343		0.000	0.000	0.051	0.189
<i>N</i>	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	0.008	.145*	-0.010	0.037	-0.038	0.050	0.054	.391**	1.000	.446**	.381**	.245**
Sig. (2-tailed)	0.911	0.032	0.880	0.598	0.579	0.459	0.458	0.000		0.000	0.000	0.001
<i>N</i>	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	-0.044	.225**	-0.084	.141*	-0.087	.177**	0.001	.384**	.446**	1.000	.298**	.271**
Sig. (2-tailed)	0.519	0.001	0.224	0.047	0.206	0.010	0.993	0.000	0.000		0.000	0.000
<i>N</i>	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	-.210**	.318**	-0.114	0.089	-.207**	.306**	-.174*	0.139	.381**	.298**	1.000	.502**
Sig. (2-tailed)	0.002	0.000	0.105	0.216	0.003	0.000	0.019	0.051	0.000	0.000		0.000
<i>N</i>	124	124	124	124	124	124	124	124	124	124	124	124
Corr. Coeff.	-.325**	.438**	-.284**	.301**	-.283**	.242**	-.349**	0.094	.245**	.271**	.502**	1.000
Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.189	0.001	0.000	0.000	
<i>N</i>	124	124	124	124	124	124	124	124	124	124	124	124

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