

Running Head: LATE-LIFE UNEMPLOYMENT AND RETIREMENT

UNDERSTANDING WELL-BEING AMONG RETIREES  
EXPERIENCING LATE-LIFE UNEMPLOYMENT

by

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This is to certify that the dissertation prepared by Maren Voss entitled "Late life unemployment and Life Satisfaction" has been approved by the thesis committee as satisfactorily completing the dissertation requirements for the degree Doctor of Science in Occupational Science.

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**Abstract**UNDERSTANDING WELL-BEING AMONG RETIREES  
EXPERIENCING LATE-LIFE UNEMPLOYMENT

Maren Wright Voss, M.S.

This study examines the role of paid work as a form of occupational engagement, with consequent impacts on health, particularly as activity patterns shift during the transition to retirement. Occupational engagement is viewed here as a necessary element of health and wellness generally, but the impact of lost work opportunity and the occupational deprivations it incurs are likely to have individual level influences. A phenomenological theoretical approach was taken in the analysis of work transitions during the pre- and post- retirement years to gain an individual level perspective on the challenges of occupational deprivation that might compromise health.

Occupational theory posits that episodes of occupational deprivation will result in negative effects on well-being. The latent benefits of work theory describes mechanisms by which lost work opportunity can have detrimental effects, as changes in time-use and lost opportunities for meaningful engagement result in a loss of socially endorsed identity. Lost work opportunity has been demonstrated to have a negative impact on physical and mental health. Similarly, early and involuntary retirement have been linked

to poorer physical and mental health outcomes. It can be difficult to define either involuntary retirement or unemployment late in life, particularly when retirement benefits are procured after a job has been involuntarily terminated. Existing literature does not adequately capture the occupational deprivation of late-life job loss on the health and wellness of individuals approaching the retirement years.

A mixed methods analysis was conducted using an explanatory sequential model in appreciation of the complexity of the question of how unemployment impacts the health and well-being of older adults. Quantitative analysis was conducted using the Health and Retirement Study. The total number of months of unemployment experienced between 2000-2012 were calculated for each individual. Unemployment months were regressed with demographic and baseline health measures to assess the relationship with health during retirement. Qualitative interviewing was conducted to assess the sociological factors that influence the relationship between lost work opportunity and retirement health, including information about retirement timing, time-use in retirement, and personal sense of control in life course events. Qualitative interviews were analyzed for relevant themes and interpretations were integrated with the quantitative findings.

A total of 529 (6.5%) of individuals in the HRS sample (N=8,099) had experienced late-life unemployment after the age of 50, with an average of 17.5 months (SD=15.76). Late-life unemployment had no significant effect on self-reported physical health ( $\beta=.0015$ ,  $p=0.376$ ) but was significantly associated with lower levels of mental health ( $\beta=.0091$ ;  $p<.01$ ). Qualitative interviewing revealed high levels of reported stress during the episode of unemployment, followed by resiliency and a return to prior

happiness levels. Individuals with late-life unemployment had much higher levels of involuntary retirement timing (between 47-57% compared to 15-28% for those with stable employment). Concepts of productivity and meaningful engagement shift during the retirement years.

In quantitative analysis of the HRS I found a direct negative effect of late-life unemployment on mental health (CES-D scores) in retirement, but no significant effect on self-reported physical health or number of chronic health conditions. Qualitative interviews revealed that 1/6 of individuals experiencing a forced removal from their employment just prior to retirement did not classify this work displacement as unemployment. This suggests there is likely error in the measurement of unemployment that is available in the quantitative public dataset. Qualitative interviews identified strong themes of resilience in the face of unemployment challenges as well as a preference for choice in time-use over money during the retirement years. It may be necessary to redefine productive or meaningful engagement in the occupational balance models when they are applied to the retirement years.

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## Understanding Well-being among Retirees Experiencing Late-Life Unemployment

**Chapter 1: Introduction****Unemployment and Retirement under an Occupational Science Lens**

This study examines the role of paid work as a form of occupational engagement and the shifts in role demands that occur during transitions to retirement. While the construct of work is multi-cultural and linked to survival (Primeau, 1996), the construct of retirement is not. Retirement as a life stage, defined as the cessation of all paid labor, appears to have originated in industrialized nations during the late 1800's, possibly as an oversupply of labor pushed economies to shelve older workers and make way for younger, healthier employees (Weisman, 1999). At some point the concept shifted from the idea of being dismissed into inactivity to its current conceptualization as a desired and wished-for rest from labor. But in this evolving dynamic there was little consideration given to the necessity of work and activity to human health.

In the Great Depression era of broad failures in global economies there was a renewed appreciation of the importance of work and activity to individual well-being. It was during depression era studies in Europe that Jahoda (1982) and fellow researchers (Jahoda, Lazarsfeld, & Zeisel, 1974) identified five latent benefits of employment that are lost when opportunities to engage in productive labor are unavailable. These latent benefits express the value of labor beyond the income it provides; including rhythms of time use, social contacts, a participation in collective purposes, an acceptable social status, and a defined personal identity (Jahoda, 1982). Jahoda's discussion specifically

addressed the loss of opportunity through unemployment, but much of what is said applies to other life situations in which productive activity is unavailable. Retirement, imprisonment, illness, or disability are all situations in which there is a loss of opportunity to engage in productive labor and potentially the loss of the latent benefits of work.

There is evidence that ongoing occupational engagement, whether in or out of the labor force, is necessary for health as people age. A survival study of elderly individuals, followed for 13 years, found productive activity without any fitness component provided the same survival benefit as fitness activity (Glass, de Leon, Marottoli, & Berkman, 1999). Occupation based lifestyle programs for the elderly have demonstrated to be both cost-effective and beneficial in improving wellness outcomes (Clark et al., 2012). Wilcock (2005) emphasized the importance of these occupation based findings as evidence that the engagement in occupation is essential for maximal health. The transition to retirement is a valuable time to study the effects of occupational engagement on health as it presents a period in which occupational shifts are occurring which might impact health and well-being.

This treatise will broadly explore how paid employment as a form of productive activity impacts health. It will follow in the tradition of researchers like Jahoda who examined the benefits of occupation by investigating the polar opposite, periods of occupational disruption, addressed here as shifts away from paid labor engagement. When it occurs late in life, unemployment is an occupational disruption which has a chronological connection with retirement, as the two are often closely associated in time

(Coile & Levine, 2011). But little is understood about whether late-life unemployment interacts with retirement and how the two types of occupational disruption might combine to impact individual well-being. Two potential benefits of employment named by Jahoda (1982) are relevant to late-life working transitions and the occupational disruption that can result. The first of these benefits is the enforced time-use in purposeful activity created by employment that incentivizes action and leads to meaningful engagement. Second, the identity building and identity maintaining benefits that result from paid employment are relevant. These time-use and identity benefits of work will be evaluated as potential mediators of health during the occupational disruption of late-life unemployment and retirement transitions.

### **Relevance**

Before delving into this analysis, an examination of the relevance of the topic of work to occupational science and occupational therapy is important. The profession has struggled to maintain a focus on comprehensive and preventative health models and has largely found itself working in medical settings with restorative therapies (Scaffa & Reitz, 2013). These professional traditions of embracing a medical model might call into question the relevance of unemployment or retirement to this research area, as these are non-medical concerns. At the founding of the profession, Meyer (1922/1977) linked the methods of occupational therapy with the treatment of neuropsychiatric disorders. His holistic views on health will be explored in more depth at a later point, but his early medical therapy focus perhaps set a stage for a clinical model of therapy. Meyer stated, “The proper use of time in some helpful and gratifying activity appeared to me a

fundamental issue in the treatment of any neuropsychiatric patient” (Meyer, 1922/1977, p. 639). Though this clinical model of occupational therapy became predominant in the early applications of occupational theories it was later criticized as lacking the comprehensiveness of the founding theory. Mosey (1971) saw the clinical view as too narrow a focus for occupational therapy and referred to the period from 1942-1960 as having a reductionist focus that stripped the science of occupation from its theoretical foundation.

The more recent development of occupational science as a field of study has returned some emphasis to the comprehensive and health promoting features of occupational theory that can be applied broadly to populations (Clark et al., 1991). The development of constructs such as occupational balance, occupational justice, occupational deprivation, and occupational alienation go further in defining the arguments of occupations as health promoting. Constructs of occupation as health promoting emphasize adaptations to challenges (Yerxa, 1998) and enablement of individuals in reaching goals and achieving health (Townsend & Polatajko, 2007). Occupational opportunities can be out of balance and lead to a negative state of health, either through excessive role demands or a lack of occupational opportunity.

An imbalanced lifestyle can be described as one where important needs are not being met, where there are either too many or too few role demands, where time is inadequately used for meeting daily occupational demands, and where daily occupations are not meaningful, productive, restorative, and pleasurable. (Christiansen & Matuska, 2006, p. 56).

While unemployment and retirement are not the only conditions that contribute to a lack of occupational opportunity, they are two life events that occur with regularity. The frequency of these conditions in society suggests value in taking an occupational science perspective to better understand the role of occupational disruption. This renewed emphasis of occupation in a holistic health model sets a stage for unemployment and retirement to be considered relevant topics for the discipline.

The underlying assumption of this body of work is that occupations are essential, not only as a means to survival, but also for physical and psychological health. Elizabethan author Thomas Dekker expressed a similar sentiment hundreds of years before occupational therapy was founded. He wrote, “Honest labour bears a lovely face” (Quiller-Couch, 1901, p. 204). From an occupational science lens, unemployment and retirement are conditions that might limit engagement in honest labor and may result in occupational deprivations through this lost opportunity to engage. There is value in applying occupational science research to the study of late-life unemployment and retirement transitions as methods for restoring occupational balance.

### **Philosophical Assumptions**

This treatise is written with a simple phenomenological approach. The simplicity of the approach is not taken without deep consideration of the criticisms and contradicting views suggesting caution. Hocking (Hocking, 2000) and others (Dickie, Cutchin, & Humphry, 2006) have characterized traditional views of occupation as individualistic. Even when a participation based emphasis on occupation includes community and environmental conditions as supports and barriers to health, it has been

viewed as too limited a scope for understanding the complexity of context in shaping health (Reed, Smythe, & Hocking, 2013). Of particular relevance to the discussion of unemployment is how an individualized approach might lead to placing blame on the individual when occupational outcomes are undesirable (Laliberte Rudman, 2013).

While blame and character assertions are not addressed in this study, the sociological factors shaping the work and retirement experience in America discussed here reveal that the social contexts of unemployment and retirement strongly impact the experience. A number of perspectives have been proposed by occupational scientists as tools for transcending the limited view of individualism and better capturing the process underlying occupational endeavors and their effects. It is not possible to cover the breadth and depth of these methodologies, but a brief discussion of the utility and reasoning behind the selection of phenomenology will be addressed.

Grounded theory is one of the methodologies recommended to occupational scientists (Nayar, 2012). It is a sociological approach to understanding, taking an atheoretical and objective stance, that allows for the emergence of patterns from collected data (Glaser, 1992). It is consistent with qualitative approaches to inquiry and has an underlying component of symbolic interactionism, where individuals are considered to be co-constructors of their environments (Nayar, 2012). Though not a method originally endorsed or mentioned specifically as a tool of inquiry when occupational science was founded (Yerxa, 1990), it is considered compatible with occupation focused analysis (Nayar, 2012). Yet the inquiry approach of this treatise is not a-theoretical and instead uses an occupational balance based theory to organize the information of various



researchers. Thus grounded theory and its assumptions are not a good fit with this inquiry.

Transactionalism is another favored approach in occupational science literature. It considers person and society as co-constitutive, and goes a step beyond individualized constraints inherent in a co-constructive theory (Dickie et al., 2006). The interconnection of elements in transactionalism is so instrumental that no two elements of a circumstance be separated. In this theory occupation is the relational glue that joins person with environment (Cutchin, Aldrich, Bailliard, & Coppola, 2008). It too holds promise to occupational scientists who want to transcend the limiting aspects of individualism in conceptualizing occupational experience. Yet the analysis here relies heavily on definitions, abstractions, and characterizations of behaviors in the realm of productive labor experiences that are categorical in ways that are inconsistent with transactionalism. Dickie et al. (2006) have argued that the holistic view of relations in transactionalism doesn't negate the use of temporary abstractions in analysis, but a fully transactional treatment of the subject would require more depth than this brief introduction to the topic can accommodate. This proposal incorporates volumes of categorical data pulled from imperfect measurement tools. Simplification is critical to drawing conclusions from survey level data in hopes of extracting general principles with broad application. To weave in the complexities of transactionalism would require a depth of analysis that would limit the extraction of general principles from the data.

Narrative work is another individual analytic method, but it has a depth of analysis that limits generalizations (Laliberte Rudman, 2013). Approaches such as

ethnography are appropriate to occupational science inquiry (Yerxa, 1990), but ethnography focuses on differences across cultures that will not be addressed here. There is a pragmatism to phenomenology that can benefit this topic. The interpretations arise from individual experience. One important factor when selecting an analytic approach is to consider the unit of analysis. In this treatise, the unit of analysis is the unemployed and retired individual and the effect that occupational experience has on the health of individuals with their wide and varied circumstances and traits. There will be limited attention to macro level forces, addressed in terms of how they shape the unemployment experience of the individual. This treatise will not fully address the complexities of the culture-specific nature of the studied practices, so it would be unwise to select a methodology that is either too broad or too limited in scope.

Phenomenology offers both an objectivity and a simplicity that is well suited to this exploration of the unemployment and retirement dynamic. Phenomenology is a philosophical approach which suggests that objectivity of knowledge is impossible to achieve because all things come to awareness through the perceptive faculty of individuals, and as such logic applied to and not apart from human experience is the only available approach to rigorous inquiry (Gray, 1997). Husserl, the founder of phenomenology, answered the reductionism of scientific inquiry in his era that left science unable to answer meaningful questions (Gray, 1997). Phenomenology is a methodology to analyze individual experience that applies logical inference to social science inquiry, interpreting social phenomena in terms of individual level effects (Barber, 2004). Gray stated that “Applied research in occupational therapy or

occupational science adopts a phenomenological perspective when the intervention is studied from the perspective of the participant's experience" (Gray, 1997, p. 15). In this way, phenomenology is a form of inquiry that is holistic, it does not separate the person from the phenomena being explored. In this treatise unemployment and retirement are studied with attention to the impact on well-being and health of individuals. Well-being and health are individual level experiences and require a philosophy of understanding that interprets the data at the individual level as the appropriate unit of analysis.

One aspect of phenomenology that is well suited to this exploration is its ability to address the intentionality of these forms of occupation. While work occurs in a transactional nature embedded in sociocultural constructions, the impact of work within an individual is likely to be influenced by the intentionality of the behavior and the meaning derived. Likewise, retirement will be studied here as a voluntary or involuntary choice, with a focus on intentionality. This intentionality is expressed as either the perception of individual control over the circumstance or the absence of individual intention. While this view of intentionality has been criticized (Cutchin et al., 2008), Wilcock (2006) referred to occupation as all *purposeful* human activity. Phenomenology, by focusing on how people experience activity, is able to address this intentionality without over-simplifying it or removing it from its context (Barber, 2004). Thus, considering the array of approaches from which it is possible to consider the topic, a phenomenological perspective amalgamating a breadth of individual, self-reported and simplified quantitative data with meaning rich qualitative data is considered the best fit

for discussing the effect of unemployment and retirement as potential occupational deprivations impacting the health of individuals.

### **Framing Paid Employment within a Sociocultural Context**

Retirement was discussed briefly above as a societal construct which influences cultural attitudes toward paid work. The unique aspects of work in American culture have been traced to the evolution and application of what has been called the Puritan work ethic. It can be argued that this ethic built the American model, created a burgeoning middle-class who then embraced work as a means to life satisfaction (Primeau, 1996). This societal context established work as a desirable commodity, conferring social status and meaning in its applications.

A number of authors have noted how the industrial revolution changed the nature of work and shaped employment relations in America (Bonoli, 2007; Kantartzis & Molineux, 2011; Primeau, 1996). With industrialization came a change in how much time people spent working. In the book *The Overworked American*, Schor (2008) analyzed average hours worked per year and noted that by the 1850's Americans were working over 3,000 hours per year, a huge climb from the estimate of 2,000 hours worked by 17th century peasant laborers. It is perhaps not a surprise that in this era of overwork, the concepts of retirement began to form. The average number of hours worked by Americans hit a low in the 1960's and has been on the rise since that time (Schor, 2008). Recent estimates put the average working American as logging 2,200 work hours per year (Bureau of Labor Statistics, 2016) .

Thompson (1967) ascribed this dramatic shift in labor hours to the monetization of time—time becoming a denominated resource. This shift is relevant to the discussions of both unemployment and retirement. Because of industrialization, labor and time are monetized in the Western frame of reference (Thompson, 1967). This cultural context shapes the thinking and experience of the individual in context. Thompson's reference to "monetization" of time is what behavioral psychology refers to as an external reinforcer. The motivation to engage moves from a natural or innate desire to an externally sourced desire motivated by something external, i.e. money. Based on Thompson's theory, the tendency to value time and labor that produces something of measurable value infers that employed individuals will be viewed with greater esteem than non-working peers. This orientation has implications for the aging worker, as a time orientation creates demands that cannot be met as the aging worker slows in pace and cannot complete tasks within the time-frame of younger workers (Skirbekk, 2004).

As another example, when labor produces no income, as in the case of volunteerism, engagement will have a reduced value and reduced incentives. The expected result from a behavioral or occupational perspective would be a reduction in productive behavior due to low incentive. This is, in fact, what has been found in time-use studies of unemployed individuals. Studies have estimated that only 2-6% of lost work time was used toward productive activity in the 2008 recession (Aguiar, Hurst, & Karabarbounis, 2013). Both the unemployed and the retired spend more time sleeping than average working adults (Basner et al., 2007). The dynamic relationships between employment, income, and motivations to engage in productive activity are not entirely

clear, but what is clear is how these factors add complexity to unemployment and retirement contexts.

Primeau (1996) partly attributed this shift in the mindset of Americans to the shift of occupations in both place (from homes to factories) and time (from interwoven throughout a day to shiftwork with a specified start and end time). Primeau stated that as post-industrialization work took place primarily outside the home, returning home became returning to something different than work. For Primeau the change in physical contexts affected American views of labor as task-orientated and led to a timed-labor orientation of work as something that occurs in discreet periods that separates it from the rest of living. This distinction has been described as the work/leisure dichotomy (Primeau, 1996; Thompson & Bunderson, 2001). This classification of occupations into separate categories of work and leisure was present at the founding of the discipline of occupational therapy (Meyer, 1922/1977) and bears on models of occupational balance as well as an understanding of the retirement construct.

### **Framing Retirement within a Sociocultural Context**

This study considers retirement from the context of an occupational science perspective, and from that perspective attempts to understand the occupational impact of retirement. The original meaning of retirement was in the context of withdrawal, applied here to withdrawal from active participation in the labor force (Weisman, 1999). Since this early conceptualization of retirement as a stage of life, there has been a multiplicity of societal, medical, and economic advancements that have changed the nature of retirement. No longer can it be considered a brief respite from work prior to death, but

instead it is an extended phase of life with depth and variety in expression. The implications of the shifts in retirement, its evolution from a period of withdrawal, its extension into a phase of dynamic growth, necessitate a closer look at the topic as an occupational inquiry. This study will explicate only one dimension of the retirement dynamic, retirement as a transition away from occupational engagement in paid work.

This study considers the transition to retirement during withdrawal from active labor force participation. That transition point between paid labor to alternative forms of activity is a dynamic window of change, with dramatic shifts in occupational balance. It is also a window of change that is dealt with in different ways depending on individual circumstance and context. A body of research shows how this transition point has implications for the adjustment, health, and happiness of those who experience it. Retirement has been studied as a decision, as an adjustment (transition), and as a career step (Wang & Shultz, 2010). Each view of retirement brings different understandings and questions, and quality research engages different measurement and analytic techniques based on the view taken. The primary concern of this exploration is an understanding of how transitions away from work impact functioning and which aspects of the person and context provide optimal adjustment. Thus, the primary consideration of retirement in this exploration focuses on adjustment influenced by person factors and societal role expectations. These factors suggest the importance of understanding the process as more important than a single decision point, a conceptualization of retirement that looks comprehensively at the retirement experience (van Solinge & Henkens, 2008).

The adjustment model of retirement has the advantage of considering the experience longitudinally, with a focus on outcomes that unfold over time (Wang, 2007).

Retirement, like all other life course events, occurs within a broader context and is impacted by structural factors. The decision to retire can be impacted by a number of factors, and one of particular relevance to the study of occupation is the experience of working conditions and job stability prior to the retirement decision. Economic recessions and higher unemployment rates that occur in the years just before an individual's retirement age have shown a negative impact on individual level health (Burgard, Ailshire, & Kalousova, 2013) and cognitive function decline in older adults (Leist, Hessel, & Avendano, 2014). Older workers during recessions are unemployed longer than younger workers, an average of 43 weeks for workers over age 55 in the US in 2010, compared to 32 weeks for younger workers in the same period (Van Horn, Corre, & Heidkamp, 2011). It is also evident that older workers are more likely to leave the workforce when unemployment strikes. Only 10 percent of displaced factory workers aged 20-54 were absent from the labor force 3-5 years after job loss, however for those aged 55-69, roughly 30 percent had withdrawn in that timeframe (Coile & Levine, 2011). This imbedded interaction between person and environment, the individual and the broader context, highlights how occupations cannot be fully understood if viewed simply as individual actions or choices (Dickie et al., 2006).

Coile & Levine (2011) further found that educational disparity may place older individuals at an increased disadvantage, as high school graduates were more likely to retire after unemployment while those with higher levels of education were more likely to



obtain new employment. The differences in re-employment rates among education groups might stem from the difficulty older workers face in finding replacement employment (Coile & Levine, 2011; Hirsch, Macpherson, & Hardy, 2000). Older workers face additional job-search challenges such as updating skills for a changing job market and age discrimination and re-employment options to match prior income levels can be difficult to find, particularly for blue collar workers (Chan & Stevens, 2004). Other evidence that the difficulties in older age job loss push individuals toward involuntary retirement comes from benefit selection processes. Governmental programs providing early access to pension or Social Security benefits increase the rates of reporting both voluntary and involuntary early retirement (Dorn & Sousa-Poza, 2010). So even when seniors have a choice to retire, it can be interpreted or experienced by the individual as forced or involuntary retirement. This interaction pattern is just one demonstration of the effect that structural elements can have on individual experiences. In addressing the role of late-life unemployment during the retirement transition at a phenomenological level, this paper acknowledges the role of structural factors. The purposes here in examining individual level factors that influence adjustment is not in any way intended to minimize the role of socio-cultural elements in influencing outcomes.

### **Research Rationale for a Late-Life Unemployment and Retirement Interaction**

A link between late-life unemployment and declining health during retirement might be suspected from two lines of research on health and occupation. The first is a known correlation between unemployment and higher mortality rates due to

cardiovascular disease and suicide (Browning & Heinesen, 2012b; Granados, House, Ionides, Burgard, & Schoeni, 2014; Jin, Shah, & Svoboda, 1995; Sullivan & Von Wachter, 2009), unhealthy diet (Rosenthal, Carroll-Scott, Earnshaw, Santilli, & Ickovics, 2012), alcohol use (Browning & Heinesen, 2012b), and psychiatric problems (Dooley, Fielding, & Levi, 1996; Flint, Bartley, Shelton, & Sacker, 2013; Paul & Moser, 2009). These findings on the negative health effects of unemployment are particularly relevant to older workers. Survival analysis indicated that a one percent increase in unemployment rates occurring at age 58 resulted in a 10% increase in the likelihood of mortality by age 79 (Coile, Levine, & McKnight, 2012). Thus late-life unemployment deserves more research attention.

The second line of research which might suggest a relationship between late-life unemployment and negative health in retirement is the evidence that suggests that factors surrounding the retirement decision have health altering effects. When a population perspective is taken on the health of retirees, there is a clear trend toward declining health and often satisfaction with life in the years following the formal retirement decision (Moon, Glymour, Subramanian, Avendano, & Kawachi, 2012). A meta-analysis of 22 longitudinal studies on the health effects of retirement concluded that retirement results in short-term increases in mental health, but found conflicting evidence for the impact on physical health (van der Heide, van Rijn, Robroek, Burdorf, & Proper, 2013), suggesting that the population level health declines are not yet understood. In research finding improvement in retirees' health overall, the category of involuntary retirees had declines in health and more negative health events (Van Solinge, 2007). Only voluntary retirees

showed significant increases in overall happiness following retirement (Calvo, Haverstick, & Sass, 2009). While the evidence on the health effects of retirement is mixed, involuntary retirement appears to have a negative impact. The relationship between late-life unemployment, involuntary retirement, and negative retirement transitions is potentially an area that can bring clarity to the conflicting evidence.

### **Conclusion**

In this section, a case was made for the relevance of work and retirement to occupational inquiry. The basis for a phenomenological approach was addressed. Then employment was explored as a societal construct, which has changed over time and may be monetized in a way that has detached it from natural incentives to engage. The impact of a changing work dynamic on conceptualizations of retirement was discussed and the relevance of late-life unemployment to retirement transitions was questioned. In this exploration, the groundwork for examining unemployment as a factor in the occupational balance of retirees was set.

The discussions of latent benefits of work highlighted factors related to the use of time during occupational disruption and the potential loss of personal identity as fruitful avenues for understanding the health effects of occupational disruption. In the next section the exploration turns to a theoretical foundation for understanding the underlying mechanisms as to how productive labor might impact well-being. Chapter Two explicates occupational balance theory as a basis for conceptualizing the relationship between work and well-being by exploring the body of literature on the health effects of

occupational deprivation which occurs among a subset of unemployed and retired individuals.

## **Chapter 2: Literature Review**

This study uses an occupational science lens to investigate occupational disruption late in life. The occupational balance frame of reference can help conceptualize the impact of late-life unemployment on retirement as having an effect through occupational disruption. Occupational deprivation or alienation, as disruptions to occupational balance, are particularly useful theories in addressing disruptions experienced as involuntary and beyond the control of the individual. In this chapter, the theory of occupational balance and its derivatives will be connected to late-life unemployment and retirement transitions, particularly those experienced as involuntary.

### **Occupational Theory and Well-being**

**History of well-being in occupational models.** From its founding, occupational therapy has been a holistic wellness model of health. The health and engagement aspects of the profession are evidenced in Reilly's statement, "That man, through the use of his hands, as they are energized by mind and will, can influence the state of his own health" (Reilly, 1962, p. 1). Bing (1981) referred to the holistic philosophy of the profession as the first significant landmark and unique contribution of occupational therapy, arguing for a link between mind and body that is central to all the doings of humanity. Meyer's founding paper on occupation as therapy (Meyer, 1922/1977) emphasized wellness

constructs through engagement, the integrated nature of mind and body, the importance of natural rhythms in human experience, and the need for balance in all the spheres of occupation (Reitz, 1992). Johnson discussed occupational therapy as aligned with ancient origins of well-being, not only as a health construct, but as a transcendent experience (Johnson, 1986). These citations reflect the contributions and alignment of occupational perspectives to well-being constructs as part and parcel of the occupational perspective since its founding.

**Occupational balance.** Occupational balance is a term used to describe the optimal alignment of occupation to healthful living. Adolf Meyer argued for occupational balance as essential for health and highlighted the importance of “pleasurable ease” or an “orderly rhythm” in occupations (Meyer, 1922/1977, p. 641). He stated the importance of balance among the categories of occupation, the “big four” of work, play, rest, and sleep, and stressed the importance of “actual doing, actual practice” as the mechanisms for achieving a wholesome and balanced life (Meyer, 1922/1977, p. 641).

Despite this founding perspective, it wasn't until much later in the 1990's that this early theoretical foundation was developed into the occupational balance explanatory model of occupation and wellness. Yerxa (2000) referred to this theoretical development of holistic models as a “renaissance of service.” A renaissance is a rebirth, implying that the holistic vision of occupation as a means to health that occurred in the 1990's was a return of something that had been lost to the profession. Yerxa (2000) named the environmental conditions that set the stage for this return, including 1) evidence of

increases in chronic impairments, 2) capability debates, 3) cost-curtailing of assistance, and 4) methodological advances. Yerxa's discussion of the rise of the occupational balance model suggests the "the mind-boggling growth" in daily complexity is a challenge to the organization of time-use, but at the same time there existed a correlating readiness of the discipline of occupational science to tackle the complexity (Yerxa, 2000, p. 88). The models of occupational balance, deprivation, and alienation that emerged in this period were attempts to address, at a societal level, both the importance and the difficulty of maintaining a health promoting engagement in occupation in face of the cultural contexts of limited opportunity.

Matuska and Christiansen situate the concept of occupational balance as a *lifestyle balance* (Matuska & Christiansen, 2008) within the broad construct of quality of life and well-being (Christiansen & Matuska, 2006). As occupational beings, balance in this domain exists at the core of life experience. Wilcock discussed balance as a developmental process, in the employment of mind and will that leads to a satisfying and health promoting existence (Wilcock, 2006). Wilcock chose the words doing, being, and becoming to express the ever-evolving aspects of occupation to the developmental process. It can be inferred from Wilcock's conceptualization that balance isn't a one-time achievement, but is an evolving adaptation to life circumstances. Although the theories of occupational balance and its derivatives have evolved over time, they have remained grounded in the orienting framework established by Occupational Therapy's founders and are a fruitful theoretical foundation for examining the impact of late-life job loss on overall health and well-being.

### **Defining Key Terms**

Constructs like occupational balance or well-being can become worn and familiar terms that lose their specificity of description. The familiarity can mask the complexity. Sociological or occupational phenomena are almost invariably complex, as complex as the peoples from which they are derived. In an effort to create clarity around the purposes of the present study, I will begin by defining the constructs under review.

**Well-being.** Well-being is addressed here as a construct of holistic health. It is a multifaceted construct that has become increasingly a focus of international attention (Dodge, Daly, Huyton, & Sanders, 2012). As the construct has developed it has been defined as consisting of several key components such as life satisfaction, positive affect, autonomy, environmental mastery, positive relationships with others, purpose in life, self-acceptance, and quality of life (Dodge et al., 2012). Quality of life is another term which has often been used interchangeably with well-being (Dodge et al., 2012). The World Health Organization (WHO) defined quality of life as “a state of complete physical, mental, and social well-being, not merely the absence of disease” (WHO, 1995, p. 1). Well-being is a broad term that incorporates several domains, among them physical and mental health, but of importance is that it is an integral aspect of the definition of comprehensive health. Occupational well-being specifically has been described as incorporating participation, doing, being, becoming, belonging, individual orchestration, balance, and meaning (Doble & Santha, 2008). In this study well-being is used as a comprehensive term for physical and mental health.

**Unemployment.** A number of groups engage in roles without paid employment, including students, the disabled, family care providers, and retired individuals. A definition of unemployment must differentiate the reason that stands behind a lack of income producing work. The U.S. Department of Labor houses a Bureau of Labor Statistics that both defines official unemployment and calculates its rates (Bureau of Labor Statistics, 2016). The official definition from the U.S. Bureau of Labor Statistics is that the unemployed consist of individuals who are presently unemployed, able to work, and are actively looking for employment. This rate has fluctuated in the U.S. between 2.5% and 10.8% since official record keeping began in the 1940's. The official definition excludes some individuals whom one might think of as unemployed, particularly those who would like to work but are not currently looking for work for some reason. The difficulties of addressing unemployment in light of the conceptual complexity and imprecision in measurement will be addressed in Chapter Three. For this study, late-life unemployment is defined as self-reported unemployment which occurs at age 50 or above. This definition differs from the official definition because there is no requirement that an individual is looking for work. This definition is consistent with a phenomenological perspective in defining unemployment from the individual experience.

**Retirement.** Just like unemployment, retirement incorporates a variety of conditions lumped into the same general category and four particular patterns have been noted. Individuals can move from full employment directly to full retirement or they may engage in bridge employment, a transition from prior work roles into new positions that bridges the step from full employment to full retirement (Wang & Shultz, 2010).



These bridge positions may be characterized by contract work, self-employment, or part-time working in the same or new career fields. These arrangements have more flexible working conditions or job roles more suitable to older individuals allowing a transition to retirement that is more gradual than abrupt. A third type of retirement transition is when health declines and disability precipitates an early departure from the work force. A final pattern is noted when there is lost work opportunity and individuals feel forced out of employment, either through job loss or an organizational requirement to retire (Wang & Shultz, 2010).

Many older individuals are moving in and out of retirement in a way that notes flexibility in late-life working contexts. It was shown that reversible retirement is found in 29-35% of retirees (Warner, Hayward, & Hardy, 2010). Retirement is often followed by workforce re-entry, with one analysis indicating that 48-60% of retired workers re-enter the workforce within six years of retirement (Maestas, 2010). There is evidence that this trend is increasing (Tang & Burr, 2015). Changes in late-life working patterns add complexity to the study of retirement transitions, but are a necessary consideration for examining the role of late-life working in the lived context. Given the complexity in the forms of retirement, it can be defined and measured in multiple ways. Some research uses the collection of pension or social security benefits as a definition (Brockmann, Muller, & Helmert, 2009; Dorn & Sousa-Poza, 2010). Some occupations allow an early retirement with pension at an age that allows individuals to move into a second career while collecting pension benefits, such that receiving a pension or benefits does not easily adequately categorize retirement. Other definitions of retirement use the cessation of all

paid labor as the standard (Chien et al., 2015). Consistent with the phenomenological approach, this study allows for self-reported full or partial retirement status as sufficient inclusion criteria to indicate that an individual has moved into a late-life transition to retirement.

**Occupation.** A seminal occupational science article by Clark, et al. (1991) defined occupations as “chunks of culturally and personally meaningful activity in which humans engage that can be named in the lexicon of the culture” (Clark et al., 1991, p. 301). The American Occupational Therapy Association position paper states that “occupations are the ordinary and familiar things that people do every day,” (AOTA, 1995). Given the bulk of literature that has been written on the nature of occupation, it is perhaps too limiting to come to a single definition. The focus of this research will be occupations that are purposeful and personally meaningful, a useful starting point because it puts the term of occupation into an individual experiential context.

**Occupational balance.** Occupational balance has been used as a well-being construct, but it needs to be defined, including a consideration of what exactly is being balanced. Matuska and Christensen’s (2008) theory of lifestyle balance described balance as an attribute or quality within the everyday experience of living. Meyer named three aspects of the balance concept as it is applied to life experience, as having a time component, an organizational component, and a component of purpose (Meyer, 1922/1977). A recent analytic review of the occupational balance construct identified 43 articles on the construct (Wagman, Hakansson, & Bjorklund, 2012). From these articles, the authors identified three themes that emerged, that occupational balance is used to

describe the right amount of activity, with the right amount of variety, with a balance in time-use. For the purposes here, an experiential definition is offered, that occupational balance is the engagement of time and talent in contextually meaningful activity as to promote subjective well-being. The wording ‘time and talent’ reference all of the resources, opportunities, abilities, energy and skill that individuals have under their personal control. Balance then can only be achieved when there is opportunity to select activity and time-use with the right amount and mix of occupations. From this definition, imbalance can occur either from failure to use time and activity in a balanced way or from a lack of opportunity to select balance due to cultural contexts and conditions.

### **Occupational Categories**

Understanding the construct of occupation and what exactly it is that is being balanced for optimal well-being necessitates a deeper look into the occupation construct. One way to understand the concept of occupation is by the function of an activity, or the role it serves. This has been a feature of international definitions of occupation and fits the founders’ conceptualization of occupations as the “big four” of work, play, rest, and sleep (Meyer, 1922/1977, p. 641). The categories of occupation in the USA, Sweden, Europe, and Canada contain functional descriptions of occupation as work (productivity), play (leisure), or self-care (Jonsson, 2008). Additional categories discussed in the literature include sleep, education, and family interaction or other social categories (Christiansen, 1994). The AOTA scope of practice contains additional functional categories of activities of daily living, education, instrumental activities of daily living, leisure, play, social participation, and work (AOTA, 2014). From these categorizations,

it is evident that work is consistently identified as one of the categories of occupation included across international models, providing a rationale for the importance of work in occupational science research. A lack of work opportunity when desired, the absence of one of the core categories of occupation, could be a threat to occupational balance.

**Alternative occupational categorizations.** The categorization of occupations by function has been criticized (Jonsson, 2008; Primeau, 1996) and it should be noted that despite the prevalence of functional classifications, it is not the only way of analyzing occupational categories. Jonsson (2008) noted two problems in these traditional categorizations of occupation that are worth discussion. First, he recognized that these categories do not capture the occupations of all people, as in the example of those who are retired or disabled who may not engage in activity that traditionally fits the “work” category. Second, the naming of the categories doesn’t necessarily capture the lived experience. TV watching as a leisure activity gets low scores on enjoyment but is highly popular, so one might question whether it is experienced as leisure or something else (Jonsson, 2008). It has been noted that traditional categorization schemes do not capture the complexity of the occupational experience (Jonsson, 2008; Primeau, 1996; Thompson & Bunderson, 2001). Gardening or woodworking are examples of activity that do not fit neatly into a single category and can be engaged in for both productive work or for leisure (Primeau, 1996).

These criticisms highlight what might potentially be considered a false work/leisure dichotomy (Thompson & Bunderson, 2001). Primeau (1996) described this dichotomous categorization of work and play as a consequence of the socio-cultural

revolution that occurred during industrialization of Western societies. In that historical change, the timing (set hours) and location (away from home) of work changed dramatically from prior agrarian models (Primeau, 1996). Since the categorization of occupations by function is a socially constructed concept, applying these categorization across different cultural contexts is problematic (Kantartzis & Molineux, 2011). This functional categorization of occupation may not adequately capture the experience, function and role of occupations across diverse cultures. The weaknesses inherent in a functional classification of occupational categories can, at least in part, be related to a culture-bound construction of occupation.

Nelson (1988) suggested a model that focuses on the specific features and demands of culturally defined occupations. Nelson (1988) described occupations as having a form and Hocking (2009) proposed nine parameters of occupation to direct research into better understanding the form and function of occupation. This addition of the concept of occupational forms adds a new layer of complexity to the categorization of occupations. Hammell (2009) proposed an experiential categorization of occupation, stating that the emphasis of occupational therapy is to help real people in real situations and for this reason it cannot remove itself from the subjective experience. Hammell (2009) suggested occupational re-categorizations that included restorative, belonging/connecting/contributing, engaging, and future-oriented occupational categories. This experiential categorization is also found in the work of Jonsson & Persson's (2006) description of exacting, flowing, and calming occupational categories.

Pierce (2001) raised the question of whether the construct of occupation can hold even within a single and defined sociocultural context. Pierce described the construct of occupation as rich in context, tying in the shape, pace, timing, sociality, and meaning of the behavior as part and parcel of the occupations rich subjective context. Pierce defined occupation as “a specific individual’s personally constructed, non-repeatable experience” (Pierce, 2001, p. 139). While this definition speaks to the subjective nature of occupation, balance in occupation from this perspective may not be something that can be measured or observed. The closest we may be able to come to measuring the construct, by Pierce’s standard, is to record the individual experience of doing or engaging in activity and then fit experiential classifications with wellness responses. From this review, it is apparent that views of occupational categories span from simplified specific to complex subjective and have implications for the methodologies employed in studying occupational balance in the work and wellness relationship.

**The balance construct in occupational categorizations.** Thompson and Bunderson (2001) not only critiqued the categorization of occupation into a false work-leisure dichotomy but went further to challenge the balance metaphor of time-use. They suggested that a balance framework emphasizes the equal distribution of a resource, in this case time in activity. But balancing of time reduces it to a zero-sum construct, misconstruing the more complex relationship of time and meaning in activity (Thompson & Bunderson, 2001). Time is not an additive static resource when it is viewed from a subjective point of view. The example of gardening points to how an increase in work time, gardening, does not detract from leisure time if gardening serves both purposes.

Their reconceptualization views occupation as a 'container of meaning' (Thompson & Bunderson, 2001, p. 18), a metaphor that invites qualitative conceptualizations of time.

Jonsson and Persson's (2006) experiential theory also acknowledges this altered experience of time as it builds on the work of flow theory by Csikszentmihalyi (1992). Their experiential theory holds that daily balance in exacting, flowing, and calming activity leads to an enhanced quality of life, but what constitutes balance will vary based on individual skills (person factors) interacting within a context (environment of supports/barriers) influenced by occupational demands (Jonsson & Persson, 2006). These interaction patterns are consistent with the person, environment, occupation models of other theorists (Law et al., 1996), fitting a more contextual and experiential perspective into the concept of occupational balance as a mechanism for healthful living. It is normal to experience a slowing of life pace in the retirement years (Jonsson, Borell, & Sadlo, 2000), but this shift doesn't have to be squeezed into a 24-hour model of limited time for self-care, work and leisure which would be construed by functional categorizations of occupations. A slower pace in self-care activities might create a more flowing interaction pattern with life tasks for individuals experiencing balance, or it could reflect an increase in exacting activity for those experiencing imbalance. Taking an experiential concept of balancing occupations into the study of unemployment and retirement is an intriguing avenue of inquiry. One of the variables known to influence the impact of the retirement transition is individual work attitudes (Westerlund et al., 2009), a factor speaking to whether the prior work might be experienced as exacting by some and flowing by others. The experiential categorization can help explore how periods of non-

work are experienced; non-work could be calming for some but might be exacting and anxiety-producing when resulting from involuntary retirement or unemployment.

An understanding of well-being and balance in the transitions to retirement can be enhanced by gaining awareness of how participation in each category of occupation influences the transition. Occupational well-being incorporates the issues of identity formation (becoming), control (individual orchestration), and meaning (Doble & Santha, 2008). The research on the latent benefits of work similarly suggests the importance of identity and meaning gained in the work experience (Jahoda, 1982). Experiential categorizations might more fully capture these complex psychological processes, allowing tasks such as work to fit into the category that best reflects the ways individuals experience the task and whether it is enhancing their experiences of control, identity and meaning in positive or negative ways.

### **Occupational imbalance in late-life unemployment and retirement transitions**

Balance is an ideal occurrence that leads to well-being while imbalance leads to a reduced quality of life. Christiansen & Matuska state that in an imbalanced state, important needs are not being met either because of a disruption in time use, a lack of meaning, or extremes in role demands of either too much or too little to do (Christiansen & Matuska, 2006, p. 56). Imbalance can be expressed a number of ways, but two states of occupational imbalance of particular concern to occupational scientists are occupational deprivation and occupational alienation. The state of deprivation is a condition where the right amount and right mix of activity, as described by Wagman et al. (2012), is not available to an individual. In alienation, the deprivation has a longer duration with longer



lasting consequences. Wilcock described occupational alienation as a condition where individuals feel a “sense of isolation, powerlessness, frustration, loss of control, and estrangement from society...” (Wilcock, 2006, p. 343). Whiteford & Periera (2012) argue that occupations are the vehicle for individuals and groups in society to participate and in which inclusion can ultimately be achieved, thus a lack of opportunity can lead to alienation. Participation in occupation is a process which includes opportunity, doing, and the collective understanding of what is being done.

Dramatic shifts occur in the occupational activities of both the unemployed and newly retired when leaving paid employment. While these shifts can be transitions to alternative activities with equivalent or enhanced meaning, the negative wellness state of unemployment and involuntary retirement suggests an occupational imbalance is likely. This inquiry is a study of whether or not late-life unemployment that results in early retirement might be a circumstance that prompts a state of occupational deprivation based reductions in well-being. The question is whether these conditions create a restricted opportunity to engage in a socially endorsed activity and a limitation on participation within the larger community. It may be that the deprivation only strikes individuals with limited resources while those with greater resources are able to endure the occupational transition without experienced deprivations. There is some evidence to this effect. Ongoing deficits in mental well-being were only noted for older unemployed workers with below average net worth and did not exist for the more affluent (Gallo et al., 2006). When retirement transitions result in exclusion, isolation, powerlessness, or estrangement from the broad collective purposes of society, occupational balance theory would predict

declines in well-being. There is evidence of the importance of maintaining a connection with societal purposes, as research showing retirees with ongoing engagement with social groups have a 2% risk of death in the following six years, while those who lost touch with one group had a 5% risk, and those who lost touch with two groups a 12% risk (Steffens, Cruwys, Haslam, Jetten, & Haslam, 2016). As the health effects of unemployment and retirement are explored, with attention to occupational engagement, the theory of occupational balance and imbalance is an interpretive lens that can shed light on potential causal mechanisms.

**Unemployment, imbalance, and negative states of well-being.** Occupational imbalance theory holds that imbalance will lead to a reduced quality of life and well-being (Matuska & Christiansen, 2008). If unemployment leads to imbalance, there should be evidence that unemployment leads to decreased well-being above and beyond the negative effects of financial loss. There is a broad body of literature that has found that the loss of a job leads to reductions in both physical and mental well-being after controlling for such factors as income, prior health, education, gender, race, or other sociodemographic factors that can influence well-being. Broad population level evidence links unemployment to higher rates of overall mortality due to cardiovascular disease or suicide (Gerdtham & Johannesson, 2003; Granados et al., 2014; Jin et al., 1995; Stuckler, Basu, Suhrcke, Coutts, & McKee, 2011; Sullivan & Von Wachter, 2009). There is also evidence that unemployment impacts health behaviors, overall health, and mental health. It has been linked to an unhealthy diet (Janssen, Boyce, Simpson, & Pickett, 2006; Rosenthal et al., 2012) and to increased substance use (Henkel, 2011; Rosenthal et al.,

2012), and there is a measureable increase in the frequency of medical visits (Linn, Sandifer, & Stein, 1985) and psychiatric problems (Dooley et al., 1996; Flint et al., 2013; Kposowa, 2001; Paul & Moser, 2009).

In opposition to this research is the view that the value of a job has little to do with overall life balance and is simply a monetary source, suggesting that replacement income should eliminate negative health effects and restore well-being among the unemployed. This has not been found to be the case. An analysis of welfare spending in 42 countries found total welfare payments only loosely correlated with improved well-being among the unemployed, with no direct effect between benefit generosity and happiness levels (Ouweneel, 2002). Other research has found that expenditures in public dollars to replace lost income are insufficient in reducing the negative health effects of job loss (McKee-Ryan, Song, Wanberg, & Kinicki, 2005). Unemployment has been consistently and reliably linked to negative psychological states and impaired mental health (Paul & Moser, 2009). And unemployment experienced among older adults has been shown to have lasting effects on mental health that do not dissipate when there is a return to work (Gallo et al., 2006). The body of evidence suggests that unemployment can lead to declines in health and well-being and supports a hypothesis that occupational imbalance may be an aspect of these changes. Given that unemployment related declines in well-being cannot be solely ascribed to the loss of income and related monetary resources, investigation into other aspects of the relationship is warranted and other causal mechanisms need to be explored.

**Retirement, imbalance, and negative states of well-being.** When a population perspective is taken on the effect of retirement, there is a clear trend toward declining health and often satisfaction with life in the years following the formal retirement decision (Moon et al., 2012). Behncke (2012) examined survey data from Europe and found that both subjective and objective health measures declined following retirement, though only non-significant declines in mental health were noted. Yet it has also been argued that retirement has no negative health effects and potentially leads to improvement in mental health (Coe & Zamorro, 2011; Kim & Moen, 2002; Mein, Martikainen, Hemingway, Stansfeld, & Marmot, 2003; Neuman, 2008; Westerlund et al., 2009; Westerlund et al., 2010). Much of this opposing research concludes that the population level health declines following retirement reflect a healthy worker effect, as those in poor health are more likely to retire and are pre-disposed to health declines. Yet there is a great deal of complexity in this research. Findings that overall there was a 5% drop in reporting poor health following retirement would seem to suggest retirement leads to improved health, yet it was those in the poorest health categories that showed the greatest health gains (Westerlund et al., 2009). The healthy worker effect would predict the opposite, that the poor in health are more likely to retire and their ongoing health declines should explain why population level health declines are evidenced following retirement.

Attempting to understand these inconsistencies in the research, it has been suggested that a decline in health following retirement may only be apparent in certain subgroups of the population (Jokela et al., 2010; Neuman, 2008; Rhee, Mor Barak, &

Gallo, 2016). A meta-analysis of 22 longitudinal studies on the health effects of retirement concluded that retirement results in short-term increases in mental health, but there was conflicting evidence of the impact on physical health (van der Heide et al., 2013). Like the ancient tale of seven blind men feeling an elephant from different angles and drawing wildly different conclusions, different answers can be found from the slightest variations in the research approach. A number of researchers have addressed whether differing retirement paths are related differentially to health outcomes and which, if any, can predict positive outcomes.

One factor that has substantial research support is that an early retirement path has been linked to poorer adjustment and health outcomes (Calvo, Sarkisian, & Tamborini, 2013; Rhee et al., 2016; Wang, 2007). Despite the consistency of this finding, there is still the concern that it is due to a health effect, as workers with poor health are more likely to retire early (Kuoppala, Lamminpää, & Husman, 2008). In a study with 122,000 German retirees, when health was controlled by number of days spent in hospital prior to retirement, the health outcomes evened out for early and late retirees (Bockerman & Ilmakunnas, 2009). A survival analysis of the Whitehall study data found that if early retirement at age 60 was either voluntary or the result of a statutory regulation, health improved following retirement (Jokela et al., 2010). These findings suggest that planned retirement at an early age may not have negative health effects and that more refinement is needed to understand population level health declines in early retirees. Given the evidence that health and wealth do not fully predict retirement timing or health effects,

health and wealth may instead serve as mediators of person variables like control or role identity that influence outcomes (Barnes-Farrell, 2005).

Voluntariness of the retirement experience is proving to be a critical element in understanding of the health outcomes. One study found that retirement had no general effect on health unless it was broken out by voluntariness (Rhee et al., 2016).

Approximately 1/3 of their sample of 1,195 participants in the 2006-2010 Health and Retirement Study (HRS) survey reported their retirement as involuntary. Those in the HRS reporting involuntary workforce withdrawal saw health declines following retirement, while those with voluntary retirement saw positive changes, mediated by family support and financial control (Rhee et al., 2016). The importance of a voluntary choice in retirement as a predictor of health after retirement has been found in other research (Van Solinge, 2007), as well as significant increases in happiness following early retirement evident only among voluntary retirees (Calvo et al., 2009).

The retirement effect of macro-level policy at the organizational and governmental level will not be fully addressed here, but should be noted. One cause of involuntary retirement noted in the reviewed literature is rigidity in the employment guarantees and safeguards set at the national level for the protections of workers. For example, involuntary retirement has been reported at rates of over 50% in Germany and Portugal where employment policy is rigid compared to 10% in the U.S. where policy is less constrained (Dorn & Sousa-Poza, 2010). These researchers also found that earlier access to social security benefits increases all types of retirement, both those considered voluntary and those involuntary. It might seem counter-intuitive that an opportunity and

choice for early benefit selection might create a perceived lack of choice in retirement timing. Yet the effect of flexible pension options on vulnerable populations such as the unemployed or disabled appears to push individuals into early retirement as a result of life circumstances and the need for a substitute income. Correspondingly, there is evidence of an increased rate of early retirement during economic recessions (Chan & Stevens, 2004). When unemployment benefits run out, retirement rates rise, particularly for pension or social security eligible workers aged 62-69 (Coile & Levine, 2011). These tendencies can lead to difficulty in interpreting the retirement data, particularly if unemployment has motivated the transition to retirement. The impact on data collection should be considered as these early departures from the work-force may be labeled as retirement choices rather than as disability claims or unemployment claims (Chan & Stevens, 2004). A qualitative inquiry can help to ascertain the circumstance that prompted a retirement decision and link this in-depth information with results from quantitative analysis.

One final connection to consider between retirement and health are the myriad of individual and occupational factors that influence the retirement/health dynamic. It has been noted that negotiating changes in occupational engagement and meaning can be particularly challenging for older adults (Heatwole Shank & Cutchin, 2010), so that a population effect will not capture individual adjustment patterns. Individual attitudes about work are important. A large survey analysis of French retirees found that those who had high work satisfaction were the only category to decline in average health ratings following retirement (Westerlund et al., 2009). Job characteristics matter, as

psychologically demanding jobs increase early retirement rates while physically demanding jobs reduced the number of early retirees (Kubicek, Korunka, Hoonakker, & Raymo, 2010). Exactly what constitutes a demanding work environment differs by individuals as the favorability of the work environment is related more to individual factors such as self-efficacy than to job characteristics (Van Solinge, 2007). The research on how work conditions impact retirement decisions highlights the complexity of the retirement transition, that it is not based solely on health or finances (Choi, 2001; Wang, 2007). There are a host of other factors that influence the relationship that need further study.

**The intersection of late-life unemployment and retirement.** When unemployment prompts a transition to retirement, it is not clear whether the health effects will be minimized or exacerbated. The effect of late-life unemployment has not been well investigated because it has not been well measured. Economic recessions and late-life unemployment prompt early retirement, as retiring eliminates a tedious job search while simultaneously providing a pension or social security income for eligible candidates (Coile & Levine, 2011). Referring to this life change as retirement reduces the social stigma that accompanies unemployment (Hetschko, Knabe, & Schöb, 2014). Other effects like the rigidity in national benefits programs (Dorn & Sousa-Poza, 2010) or overall changing societal policy influence retirement decisions in ways that alter individual control over the process (Poterba, 2014). It has been hard to distinguish through self-report surveys when unemployment has been the cause of early retirement and when it is experienced as involuntary.



Late-life unemployment is related to early retirement decisions and workforce withdrawal. This effect is seen even though early retirement typically results in reduced income during retirement years (Coile & Levine, 2011). In Coile and Levine's (2011) analysis of displaced workers, only 10 percent of workers aged 20-54 who lost jobs to factory closings or eliminated positions were absent from the labor force three to five years after job loss. However, for those aged 55-69, roughly 30 percent had withdrawn and remained absent from the labor force, three times the rate of withdrawal than younger workers (Coile & Levine, 2011). Another finding is that relatively wealthier older workers experiencing an economic setback from job loss are more likely to delay retirement and continue working. It is the older workers with fewer economic resources who are more likely to retire early from the inability to find new employment (Coile & Levine, 2011). This factor may be part of why the inability to find bridge or partial employment at retirement correlates with lower levels of life satisfaction (Dingemans & Henkens, 2014). Older unemployed workers may have difficulty finding new employment that matches their prior income in addition to facing the traditional job-search challenges such as updating skills for a changing job market (Chan & Stevens, 2004).

Unemployment late in life is one example of a non-health condition that pushes older workers into retirement. When job loss resulted in an early retirement selection, mental health declined (Mandal & Roe, 2008). However, one encouraging effect found by Mandal and Roe (2008) is that workforce re-entry brought back the lost mental health. This finding suggests the importance of occupational processes in the life balance and

well-being of individuals at retirement age. Just as there are a myriad of factors influencing health following retirement (Kubicek et al., 2010; van Solinge & Henkens, 2008; Westerlund et al., 2009), there is a need to explore the individual and contextual factors that reveal how late-life unemployment and occupational disruptions impact retirement timing, adjustment, and associated health effects.

### **Furthering Research into the Unemployment/Retirement Dynamic**

One recurring issue raised in this research is the challenge of measurement, particularly when dealing with broad topics of “retirement”, “unemployment” and “well-being.” It is difficult to obtain good measurement of retirement distinct from late-life unemployment. The fluidity of transitions in and out of retirement complicates the picture, necessitating measurement at multiple time points and multiple categories for accurate description of late-life working behavior. Outcome measures for health and well-being are also important considerations, as the null findings for health effects can be easily influenced or challenged when differing measures are used (Browning & Heinesen, 2012a; Browning, Moller Dano, & Heinesen, 2006). Measurement issues might help to explain the conflicting research relating to health gains or detriments following retirement, particularly if the topic is only examined in the aggregate. Labeling the problem as a measurement issue is another way of expressing the importance of individual variables and contexts that are difficult to examine in aggregate, highlighting the importance of qualitative research as a tool to inform the topic and supplement the findings of quantitative analysis.

This review highlights the sparse application of qualitative methods of investigation in examining the role of work during the transition to retirement. Only two qualitative analyses were identified in this literature review dealing with the role of work in late-life transitions (de Wind et al., 2013; Nuttman-Shwartz, 2004). It was found that an important element in the activities of seniors was how meaning, even for the same activity, can change over time and a single task can carry multiple meanings for a single individual (Rudman, Cook, & Polatajko, 1997). Analysis of the factors that influenced the retirement decisions will necessitate a qualitative approach exploring the multiple meanings, contexts, and complexities behind the occupational relationships. This in-depth understanding may help to clarify the conflicting information found in this review and can be useful in guiding decisions and policy related to retirement.

This review has highlighted a few missing pieces in understanding the complexities of the occupational influences in ending a working career. One of those factors is the issue of personal control over the timing and type of exit from paid working life. The research presented on recessionary unemployment causing increases in early retirement demonstrates that this dynamic is less about retirement plans or hopes or dreams and more about the ways contextual factors impact the individual experience of retirement. This is to say that the impact of occupational disruption may be implicit with unrecognized consequences, rather than a conscious decision-making process. Information presented here stressed how involuntary early retirement can compromise health, in contrast to when a cognitive choice is made and there is a planned exit from the workforce. There is a great deal of importance for seniors in feeling they have a choice in

their activities, and this choice provides a sense of control in life more generally (Rudman et al., 1997). These related findings suggest the importance of understanding how perceptions of control are influenced by the unemployment and retirement dynamic.

Occupational scientists have identified the identity shaping aspect of occupation as a key component in the relationship between occupation and health (Christiansen, 1999; Wilcock, 2005). In the unemployment literature, the loss of personal identity was found to be the closest correlate with perceived deprivation from unemployment (Waters & Moore, 2002). Qualitative work with seniors also noted that a sense of identity was a theme that emerged frequently as seniors discussed the meaningful activities in their lives (Rudman et al., 1997). Other qualitative analysis on the transition to retirement has similarly stressed the importance of meaning, in addition to tempo and balance, as factors influencing healthy transitions (Jonsson et al., 2000). Among a group of mature workers facing long-term unemployment, a transition to retirement restored a sense of socially endorsed identity (Hetschko et al., 2014). From this intersection of occupational balance theory and identity constructs, one might hypothesize that autonomous action is an essential process component of life satisfaction that relates to perceived meaning and identity. Identity is a construct that appears infrequently in the retirement adjustment literature, only briefly touched upon in the role theories of retirement adjustment (Wang & Shultz, 2010). The importance of identity and meaning afforded by occupational activities is an area that could receive more attention in understanding health and well-being outcomes in the transition to retirement.

This review highlighted the need for qualitative research that can accommodate the complex definitions of unemployment and retirement that fit real life situations. Important questions remain about how feelings of voluntariness or control impact the retirement decision when unemployment has been a factor. Additional questions remain as to how these life changes impact meaning and identity for affected individuals. Connecting these threads of life experience can help to weave a deeper understanding of the difficult transitions to retirement and the options for hope and well-being that an occupational perspective can provide.

### **Chapter 3: Methods and Materials**

Research has demonstrated that approximately 1/3 of retirees report that the timing of retirement was not of their choosing (Rhee et al., 2016) and studies have linked involuntary retirement to both late-life unemployment and poor health outcomes (Coile et al., 2012; Dingemans & Henkens, 2014). Economic patterns and structural issues have been explored as factors of impact in the role of unemployment on retirement health (Wang & Shultz, 2010). Yet the effect on the lived experience has not been systematically examined, a story left to anecdotal accounts. In the prior chapter the lines of research which suggest a connection between late-life unemployment and involuntary retirement were explored, with links to negative states of well-being. The question of how late-life unemployment affects retirement with subsequent effects on health has been

inadequately addressed in prior research. A review of the literature with an occupational science perspective suggests four relevant research questions.

### **Research Questions**

The subjective relationship of time to activity and personal meaning raises the question of how shifts in temporality are part of the experience of involuntary retirement, particularly when precipitated by late-life unemployment.

**Question 1.** Is late-life unemployment related to involuntary retirement and does it impact well-being or health during the retirement transition?

In addition, the involuntariness in either retirement or late-life unemployment raises a question of how these experiences impact the perception of control and well-being in the retirement transition.

**Question 2.** Do perceptions of control change due to late-life unemployment?

**Question 3.** How are perceptions of control related to occupational balance, well-being, and health?

The unexpected ending of a life role raises a question of how involuntary endings and shifts in late-life occupational status might impact occupational identity and meaning, leading to a final research question.

**Question 4.** How does late-life unemployment impact perceptions of self and meaningful engagement?

### **Mixed Methods Rationale**

This study used a mixed methods approach in appreciation of the complexity of the question of how unemployment impacts the health and well-being of older adults,

particularly with its implications on the retirement transition. Explorations in past research on the effects of unemployment on health have taken a quantitative approach (Browning & Heinesen, 2012b; Granados et al., 2014; Jin et al., 1995; Sullivan & Von Wachter, 2009). The limited qualitative research in this area has not specifically addressed the effect of late-life unemployment on retirement transitions (Aldrich & Dickie, 2013; de Wind et al., 2013). Both quantitative and qualitative approaches have unique strengths. The quantitative approach has the power of numbers and statistical methods to differentiate linked relationships from chance occurrences and the ability to estimate effect sizes. This method has been essential in determining that unemployment is a significant social and occupational determinant of health. The qualitative approach, by contrast, has its roots in anthropology and is a process of gradually making sense of social phenomena (Creswell, Klassen, Plano Clark, & Smith, 2011). The method is subjective and finds its relevance as emergent themes find coherence in theoretical frameworks as well as lived experiences. While a quantitative approach can and has brought insights into the effects of unemployment and involuntary retirement on the health of populations, the qualitative method has highlighted the relevance of these findings from a person perspective and in a manner of sense-making. This study used quantitative methods to assess the link between late-life unemployment and the potential factors that influence health during retirement. Further, this study explored the relevance of the factors that potentially influence the relationship; a matter addressed through qualitative inquiry.

A mixed methods approach is most appropriate to this inquiry because of the exploratory nature of the question, the complexity of the constructs of unemployment and retirement, and the importance of determining the relevance or meaning behind the factors. A qualitative inquiry which follows a quantitative analysis can be a powerful tool for interpretation and explaining the meaning of quantitative findings (Creswell et al., 2011). Specifically, this study explored the roles of occupational engagement in the retirement transition, from the theoretical perspective addressing occupational alienation, deprivation, and balance, in an attempt to understand the health effects of labor force transitions. The complex sociological meaning of occupational deprivations are best addressed with qualitative methodology. Yet building from the foundation of a quantitative understanding of linked relationships can strengthen the argument that these conditions are potential predictors of health. The study therefore used an explanatory sequential design, first analyzing quantitative data to establish a relationship and identify highly relevant factors of influence or impact. The second stage then employed a series of qualitative questions to further explore and explain the experience of late-life unemployment. The third and final stage of analysis was an integration of the quantitative and qualitative data for interpretation and linking back to theoretical assumptions.

### **Definitions of Constructs**

**Operational definitions of health.** The construct of health incorporates a broad range of physical and mental states of well-being or dysfunction. Broad terms are difficult to measure with consistency across studies because of the multiplicity of



constructs assessed. Throughout this literature review “health” is viewed from multiple perspectives and measured in a multiplicity of ways. Measures of self-rated health, chronic conditions, medications lists, suicide rates, and mortality rates are just a few examples of the ways in which health can be operationally defined. The manner in which health is measured can make a significant difference to the direction and quality of research findings. In the prior chapter it was noted that researchers found no evidence for acute stress related illness following unemployment (Browning et al., 2006) but later found evidence for rising mortality as well as suicide and traffic related hospitalizations among the unemployed (Browning & Heinesen, 2012b). An operational definition which is too broad can inhibit the reproducibility of research, yet in the study of occupational phenomena a narrow definition may be insufficient for capturing the complexity of the construct. In light of the limitations of narrowing the definition of health, this study used a broad and inclusive definition of health which incorporates the physical, mental, and social aspects of well-being. Well-being is viewed here to be inclusive of the physical and mental health components often measured in research and relevant to understanding the lived experience of unemployment and retirement transitions.

**Operational definitions of unemployment.** When recent societal changes are considered, the picture of unemployment that emerges is a mix of varied family situations, work arrangements, and retirement dynamics, all impacting employment needs and employment decisions (Bonoli, 2007). The unemployment rate is impacted by a number of factors separate from labor demand, including the labor participation rate of married women, changes in retirement age, or changes in education levels and demands

(Nickell, 1997). In simple terms, the broad measure of unemployment reflects the demand of the market for labor and a mismatch between the demand and the supply. But a simple definition of unemployment does not capture the complexity of individual situations and is a methodological concern in examining the relationship of unemployment and retirement transitions.

One example of non-maximized work status extending beyond a traditional definition of unemployment comes from individuals who experience long-term unemployment defined by the U.S. Bureau of Labor Statistics as lasting longer than 27 weeks (Bureau of Labor, 2016). These individuals are not counted in official unemployment statistics, yet both common sense and research clearly suggest there will be a negative impact of unemployment on these individual lives (Aldrich & Dickie, 2013). Research suggests that those over the age of 55 are over-represented in the category of discouraged workers who would like to work but are no longer searching for employment, possibly due to the greater challenges to employability among this age group (Kodrzycki, 2000). When unemployment benefits run out for an older worker eligible for a pension or social security benefit (particularly those aged 62-69), retirement rates rise in response (Coile & Levine, 2011). This additional complexity in defining unemployment is an ongoing methodological concern in the study of unemployment among older individuals. The phenomenological approach of this study favors a definition of unemployment that is self-reported and relevant to the individual circumstance. This self-defined definition of unemployment cannot easily be captured in quantitative analysis, which is limited by the quality of information in the survey

questions related to unemployment. Qualitative inquiry was used to help to address a portion of these limitations in measuring and understanding unemployment effects beyond traditional unemployment definitions.

**Operational definitions of retirement.** One element of defining retirement that should be noted is that retirement and work are not dichotomous categories but reflect more of a spectrum of engagement. There is a growing body of retirement literature investigating bridge employment as a gradual retirement transition (Wang, 2007). Bridge employment is a work pattern that is increasingly common, as there has been a shift away from fixed benefit plans toward defined contribution plans, creating varied and unpredictable incomes in retirement (Wang & Shultz, 2010). Bridge employment trends may reflect societal level structural changes that have impact on retirement processes with reduced the stability as well as more self-employment or career change elements (Wang, 2007). Partial retirement is another category of transition very similar to bridge employment and the two concepts are not clearly delineated in the literature. When work is a step-down from the previous career, reductions in hours or added flexibility, the arrangement may be termed partial retirement whereas bridge retirement often refers to a transition to a new type of employment or work role (Zhan, Wang, Liu, & Shultz, 2009). Partial retirement corresponds with improved health (Kachan et al., 2015). Similarly, working in favorable conditions can improve the health of retirees who choose bridge employment (Zhan et al., 2009), though some evidence suggests that those with gradual retirement reported more sadness (Calvo et al., 2009). Acknowledging the complexity of retirement definitions and keeping with the phenomenological approach of the study,

retirement status was self-defined in the qualitative interviews. The HRS quantitative data used to define retirement was more categorical. Labor force status was listed as employed when individuals report that they were partially retired and working part-time.

### **Quantitative Methods**

The quantitative analysis utilized the Health and Retirement Study (HRS), which is conducted and administered by the National Institutes of Health, Institute on Aging. The HRS is a longitudinal health survey conducted every two years in the United States on a cohort of adults aged 50 years and older and their spouses (Chien et al., 2015). It is a survey designed to study the health of older adults as they navigate the transitions through late adulthood. In addition to basic demographic data, the survey contains detailed information about employment history, unemployment, retirement plans, and financial status. After the initial in-person or telephone interview, the HRS survey obtains supplemental information from a leave-behind portion of the survey that includes engagement in social and community activity, social support, relationship quality, and life satisfaction variables. The survey includes detailed information on health status assessed in a number of ways including number of chronic conditions, prescription medications, body mass index, and other health physical and mental health measures.

**Population/recruitment.** Individuals included in the initial cohort of the HRS longitudinal health survey were born between 1931 and 1941, and supplemental cohorts have been added in periodic waves. In 1992 a screening of 69,337 households with a response rate of 99.6% yielded an initial eligible sample of 15,497 individuals for interviewing. From this initial group, 12,652 surveys were obtained, yielding a total

response rate of 81.6%. By 2008, additional cohorts had been added and expanded the sample to 31,000 participants. No additional cohorts have been added since 2008, but surveys have continued every two years on the existing cohorts (Health and Retirement Study public use dataset, 2002-2012) (RAND, 2002-2012). By 2008 there were 1,763 study participants (5.7%) who had requested to be permanently removed from the survey collection process, which was the last time this data was calculated for the complete cohort groupings.

**Data collection.** Data from the HRS is publicly available at (<http://hrsonline.isr.umich.edu/>). The RAND Corporation has produced user-friendly longitudinal compilations of the individual waves of the HRS dataset. The RAND HRS (Version P) was utilized in this analysis, a cleaned and processed longitudinal file made publically available by the RAND Corporation (Chien et al., 2015). All data in the HRS are de-identified such that no protected health information (PHI) is vulnerable and analysis of the public dataset is exempt from IRB approval requirements.

The HRS employs multiple instruments and question formats. A full detail of instruments used in this analysis are included (see Appendix B). The HRS asks about labor force status with the question, “Now I’m going to ask you some questions about your current employment situation. Are you working now, temporarily laid off, unemployed and looking for work, disabled and unable to work, retired, a homemaker, or what?” Retirement coding is checked against reported hours working for pay so that a working individual is not coded as retired (Chien et al., 2015).

Three measures of physical health from the 2012 survey were included as outcome variables, addressing subjective and objective health assessment. These include self-reported health, number of chronic conditions, and number of nights spent in the hospital in the last year. Self-rated perceived physical health was answered by a single question, ‘Would you say your health is excellent, very good, good, fair, or poor?’ Because the data is longitudinal, death in a subsequent year would create a scenario where no data is available for self-reported health. Death records were combined with self-rated health. Self-rated health was reverse coded so that poor health = 1 and excellent health = 5, and in cases where death was reported, a value of 0 was entered for self-rated health in 2012. Number of chronic conditions was calculated as the sum of self-reported conditions for which the respondent had ever had a doctor inform them of having a diagnosis. There are eight chronic conditions queried including high blood pressure, diabetes, cancer, lung disease, heart disease, stroke, psychiatric problems, and arthritis. The number of chronic conditions were taken from the 2012 survey wave and were calculated as a sum of self-reported doctor diagnosed conditions. Number of nights spent in the hospital within the past year were included as a third measure of physical health status.

Depression scores were included to control for prior mental health utilizing the Center for Epidemiological Studies-Depression (CES-D) measure (Radloff, 1977). The scale includes nine questions assessing sleep, mood, and energy levels. Administration of this scale in the HRS differed from the standardized version of the CES-D as respondents were asked to answer ‘yes’ or ‘no’ to the questions rather than answering on

a 5-point scale. For example, respondents were asked, 'Now think about the past week and the feelings you have experienced. Please tell me if each of the following was true for you much of the time during the past week.' This prompt was followed by one of nine yes or no queries including; 1) felt depressed, 2) felt that everything you did was an effort, 3) your sleep was restless, 4) you were happy, 5) you felt lonely, 6) you enjoyed life, 7) you felt sad, 8) you could not get going, and 9) you had a lot of energy. Total scores ranged from zero (no depressive symptoms) to nine (severe depressive symptoms), with items four and six reverse-coded. The CES-D has demonstrated adequate internal consistency (Cronbach's alpha = .80-.90) and reliability ( $r = .41-.70$ ) (Gonzalez et al., 2017; Radloff, 1977). The CES-D total score was tallied and computed as a single variable by the HRS RAND Corp. These physical and mental health variables address research question one.

Research question number two was addressed using the Sense of Control scale, a 10-question compiled scale included in the HRS survey (Lachman & Weaver, 1998). Lachman and Weaver's Sense of Control Scale includes two subscales, a sense of mastery and environmental constraints. Questions include items such as "There is little I can do to change many of the important things in my life," which are answered on a 7-point scale from 'strongly disagree' to 'strongly agree.' The Sense of Control scale has demonstrated adequate internal constancy for both the perceived mastery subscale (Cronbach's alpha = .70) and the perceived constraints subscale (Cronbach's alpha = .86) (Lachman & Weaver, 1998).

Covariates were identified through literature review and included age, gender, race, income, region, and education level. Age and income were included as continuous variables. Gender, race, region, and education were included as categorical variables. Region was based on census regions and was included to adjust for the influence of regional variations that exist in health spending and outcomes (Fisher et al., 2003). Education was divided into four categories of less than high school, high school graduate or GED, some college through four-year degree, or some graduate school and beyond. Regular engagement in vigorous, moderate, and/or light activities was tested in the model as a covariate to account for activity levels.

**Data analysis.** Four steps were taken in the quantitative analysis (see Figure 1). The first step utilized only data available publicly in the HRS dataset. After obtaining the public dataset, the sample was selected for all individuals aged 50 or older in 2000 who were still in the labor force. A variable was constructed from employment data that calculated months of unemployment reported. The HRS in each survey wave asks respondents who report unemployment how many months they have been unemployed. For each respondent, a total months of unemployment score was calculated. To calculate this variable, the first month of unemployment was subtracted from the date the survey was administered. This created a count of the total number of the months of unemployment at the time of the survey date, though it did not capture the number of months of unemployment extending past the survey date. Number of months of unemployment were added across survey waves and were top coded at 60 months or 5



years of unemployment to differentiate unemployment from long-term disability or other reasons for remaining outside of the labor force.

Descriptive analysis was performed on the quantitative data. This included descriptive statistics for the final sample meeting inclusion criteria and reported as means and standard deviations for all continuous variables, and as percentages for categorical variables. Ordinal data drawn from Likert scale survey questions were analyzed with parametric statistics (Norman, 2010).

The third step included regression analysis with the demographic variables as covariates along with the independent variable of late-life unemployment. Demographic and individual variables included prior health status, prior CES-D, age, gender, race/ethnicity, financial resources, education level, marital status, and census region (see Table 1). The dependent variables assessed included self-reported physical health status, number of chronic conditions, number of nights spent hospitalized, and mental health status measured by the CES-D. Self-reported health has been found to be a reliable indicator of health outcomes (Cheak-Zamora, Wyrwich, & McBride, 2009; Salyers, Bosworth, Swanson, Lamb-Pagone, & Osher, 2000). However, research on the health effects of unemployment have shown that the manner in which health is measured can alter the conclusions that are drawn (Browning & Heinesen, 2012b; Browning et al., 2006), thus objective and subjective reports of health were included to address consistency of the outcomes assessed.

In the fourth step, regression analysis looked directly at whether individual sense of control was impacted by late life unemployment. Quantitative analysis was conducted using STATA SE 14.0 (StataCorp, 2015).

### **Qualitative Methods**

The goal of this research was to move beyond a basic description of the relationship between late-life unemployment, involuntary retirement, and health and well-being. As this broad research question focuses on complex issues that can only be fully addressed and understood within context, the second stage of data collection and analysis included qualitative methods from a phenomenological theoretical perspective. Semi-structured qualitative interviews were conducted with 25 mature adults over age 50 who had experienced unemployment late in life. These interviews were part of a larger project on retirement health and drawn from data collected on 176 retired individuals attending the Huntsman Senior Games in October 2016. Information about retirement timing, time-use, control, health, and well-being status were queried in each interview, addressing relevant themes of personal engagement and meaning. The participants in the qualitative surveys answered the same quantitative questions regarding health and demographic descriptions from the HRS, identified above, and any differences between the national sample and the qualitative sample are described in the results.

**Population/recruitment.** The qualitative interviews were collected from interested participants and their partners who attended the Huntsman Senior Games in St. George, Utah. Participants included individuals aged 50 and older who described their occupational status as retired or partially retired. The qualitative data collection involved

human subjects providing informed consent. The research proposal was approved by the Institutional Review Boards of Towson University and the University of Utah to ensure the protection of human subjects. Review of the proposal addressed responder burden, privacy, and potential harm to ensure that all risks were minimized and that the value of the information warranted the imposed burden. No children, prisoners, or vulnerable populations were participants in the study. The interviewees included women and minority participants. As expected, African American participation was low relative to the location of the Huntsman Senior Games in an area typically under-representative of this minority group. As expected, the education and income of participants was higher than the national sample in the HRS dataset.

**Data collection.** The nature of qualitative research is necessarily intrusive into the thoughts and perceptions of individuals (Creswell et al., 2011). As such, participants were treated with courtesy and respect throughout the recruitment and interview process and allowed to end the interview at any point. The process of invitation to participate, informed consent, and an open discussion of research purposes provided an opportunity for trust-building. Participants were provided information and informed consent through a written letter and the opportunity to ask questions of the researcher (see Appendix B). All research personnel were trained in the CITI Program Human Research Group 1 – Biomedical Research Investigators Training which includes modules on:

1. History and Ethics of Human Subjects Research
2. Students in Research
3. Informed Consent

4. Social and Behavioral Research (SBR) for Biomedical Researchers
5. Belmont Report and CITI Course Introduction
6. Records-Based Research
7. Genetic Research in Human Populations
8. Vulnerable Subjects – Research Involving Prisoners, Children, Pregnant Women, Human Fetuses, and Neonates
9. FDA-Regulated Research
10. Research and HIPPA Privacy Protections
11. Conflicts of Interest in Research Involving Human Subjects
12. Avoiding Group Harms – U.S. Research Perspectives
13. Basic Institutional Review Board (IRB) Regulations and Review Process
14. Populations in Research Requiring Additional Considerations and/or Protections

The first step of data collection included participant identification and recruitment at the Health Fair of the Huntsman Senior Games. Health fair booths offer health information, blood pressure screenings, diabetes screening, and other types of health information. Potential research participants voluntarily approached the research booth, were offered information on retirement transitions, and were invited to participate in the qualitative interview. No financial incentive was offered to participants.

Demographic and employment history information were obtained from consenting participants through a Qualtrics survey administered on electronic tablets at the time the participants were recruited at the health fair event. The consent to participate

and study information were administered as the first page of the Qualtrics survey. A written copy of the consent form was provided upon request. The same demographic questions and health questions included in the HRS survey were included, with information on age, gender, race, ethnicity, marital status, educational history, and self-reported health. Participants were instructed to leave blank any questions they felt uncomfortable answering. The Qualtrics survey also contained questions about employment history, retirement status and engagement in activity (see Appendix C).

In the third step of data collection, semi-structured interviews were conducted and electronically recorded. Screened partitions separated the interview booths from the general traffic at the health fair. Trained research personnel in both research ethics and interviewing techniques conducted the interviews. For those interviews not conducted by faculty or the primary investigator, additional training for research staff included observation of the first interview for feedback and additional training, including a focus on the occupational science perspective and methods to elicit enriched information from the semi-structured interviews.

Interviews followed the collection of informed consent. To build trust, the beginning interview segment allowed participants to comment on their experience with the Qualtrics survey and whether they had any questions about the study purposes, as well as light conversation about their experience at the Huntsman Senior Games. The semi-structured interviews utilized a moderator guide, which was pilot tested and administered to 20 mature adults to refine the question administration, timing, and evoked content (see Appendix D). No constraints were placed on interview length unless

it becomes apparent that the participant had deficits that compromised the integrity of the data collection. The one-on-one individual interviews concentrated on perceptions of the experience of late-life unemployment, retirement adjustment, current participation in meaningful activity, and factors of personal control and perceptions of social contribution. Study participants were given the opportunity to provide an email address or mailing address if they were willing to receive communication from study researchers. Providing this additional information was described as fully voluntary and not necessary to participate in the interviews.

**Data management.** All participant information was maintained in secure formats. All information collected through questionnaires were transcribed and uploaded to a research server that is kept secured and password protected. Email addresses were collected from participants with the participant ID and not with the participant name to protect privacy. Once email addresses were entered into the data management software which is password protected, the paper copy of the email list was shredded. Only researchers with the appropriate clearance who completed all pertinent trainings have access to server files. All physical copies of patient information are kept in locked files with access restricted to the Principal Investigator, IRB approved members of the research team, and Towson University and University of Utah Institutional Review Board (IRB) reviewers who oversee research involving human subjects to protect the rights of study participants.

**Data analysis.** The goal of the qualitative interviewing was to unfold an understanding of the people, the contexts, and the interactions between the variables

specified above. In that the interview questions were structured around theory driven themes, there is a deductive component that underlies the interviewing process. This deductive component draws upon the occupational science view that occupations are elemental in the ongoing development and life experience of individuals. Beyond the phenomenological approach taken in the data collection, the methods for analyzing the qualitative data utilized an emergent framework when reviewing interview content (see Figure 1). Thematic analysis was conducted as recommended by Braun and Clarke (2006), not bound by any particular theoretical framework. Though participant responses were structured around the theoretical derived domains in the question formats, analysis of interview data include an inductive component. The qualitative analysis allowed for an exploratory look at themes that emerged in this newly researched domain of late-life occupational concerns.

Interviews were transcribed by trained research assistants at Brigham Young University. The primary investigator conducted a first reading to code blocks of text that could be identified as characteristics of the described experience. Coders were trained on NVivo software and utilized this format for managing and organizing the qualitative data extraction. A coding table was constructed in NVivo software from the generated codes and patterns, with new codes added as themes emerged in the first coding.

The second step included a second coding performed by the primary investigator. The second readings were not constrained by the initial coding table created from the first reading, but the coding system was continually modified with ongoing review and refining of themes to identify emergent characteristics that reflected the overall patterns

of experience. The patterns were noted whether or not they related to literature-based, previously identified themes. Patterns that occurred with frequency across interviews were identified as relevant themes arising from individual level experiences. Analysis was performed using NVivo software for Mac 11.0 ("NVivo qualitative data analysis Software," 2014).

The third step of interview analysis was a final reading of the interview transcripts by the primary investigator. On this final reading, quotes which exemplified the identified themes were added to the coding table (Braun & Clarke, 2006). Working with themes in this emergent framework focused on the ways in which individuals constructed meaning from their experiences. The final reading gave particular attention to the ways in which the process of transition was interpreted by the individual. The analytical approach of reading and re-reading for themes without attention to prior research or theory is an inductive process that allows the information to arise from an individual, bottom-up approach (Braun & Clark, 2006). This approach is consistent with the phenomenological view that the subjective experience takes precedence over objective, theory-driven versions of reality.

The fourth step of analysis addressed the trustworthiness of the data. The use of multiple data sources and secondary coding addressed data integrity. Cross-comparisons between the HRS dataset and the interview participants at the Huntsman Senior Games are included and addressed in the discussion and limitations sections. Comparisons were also drawn to prior research. Using an occupational lens, the themes were evaluated as



coherent or disruptive to the time, meaning, and control elements of occupational balance theory as it relates to mature populations.

### **Integrated Analysis of Mixed Methods**

Understanding of the effects of late-life unemployment on health and retirement transitions was developed from the three-part process incorporating literature-based theory, quantitative analysis, and informed interpretation through qualitatively derived themes. The final stage of analysis involved data integration (see Figure 1). The sequential explanatory format of quantitative findings with follow-up through qualitative interviewing involves bringing the results together for integration. The qualitative data were used to inform and interpret the significance of factors that arose from the quantitative analysis. The goal of analysis at this stage is to minimize the weaknesses of each type of analysis and draw from the strengths (Creswell et al., 2011). The quantitative data identified statistical significance of the relationships between variables. The follow-up with qualitative methods allowed for evaluation of the relevance to participants, informing the reasoning process from a phenomenological perspective.

The point of interface between the quantitative and qualitative portions of analysis can present difficulty in transferring knowledge from one dataset to the analysis of the other (Creswell et al., 2011). The literature review highlighted the negative health effects of unemployment and involuntary retirement. Further, the literature review identified retirement timing, time-use, sense of meaning, control, identity, and engagement in activity post-retirement as potential factors influencing health outcomes. Where possible, these identified factors were culled from the quantitative data and compared to the

themes which emerged from the qualitative data. The potentially new perspectives or differing emphasis extracted from the themes emerging from the in-depth interviews were applied to understand the relevance of the relationships revealed in the quantitative data analysis. This integrative process allowed for identifying unknown processes, explanations of phenomena, and a deeper understanding of the effects through the inductive processes of qualitative analysis (Pasick et al., 2009).

#### **Chapter 4: Results**

The purpose of this analysis was to answer four primary research questions; 1) Is late-life unemployment related to involuntary retirement and does it impact health?, 2) Does late-life unemployment impact perceptions of control?, 3) How are perceptions of control related to occupational balance and well-being?, and 4) How does late-life unemployment impact perceptions of self and meaningful engagement? A mixed methods approach was taken to address the quantitative and qualitative aspects of the questions at hand. Prior research suggests that late-life unemployment is linked to involuntary retirement, and both unemployment and involuntary retirement are linked to negative health outcomes. This analysis addresses both the issue of whether a direct relationship can be found between late-life unemployment and negative health effects as well as possible pathways such as control or engagement that could explain the potential health effects.

### **Addressing the Research Questions**

**Question 1.** Is late-life unemployment related to involuntary retirement and does it impact health?

This question was addressed through a quantitative analysis of physical and mental health reports in the HRS dataset of those experiencing late-life unemployment in comparison to those who have not. Data related to voluntary and involuntary retirement timing was analyzed from both the quantitative and qualitative datasets to examine differences in voluntariness of retirement for those with late-life unemployment.

**Question 2.** Does late-life unemployment impact perceptions of control?

The quantitative data specifically addresses control perceptions and data were analyzed comparing those with and without job loss. Themes related to sense of control were analyzed from the qualitative interviews as well.

**Question 3.** How are perceptions of control related to occupational balance and well-being?

Qualitative interview questions specifically addressed perceptions of control and these responses were considered for themes that emerged related to occupational balance, health, and well-being.

**Question 4.** How does late-life unemployment impact perceptions of self and meaningful engagement?

Identity and meaning are difficult concepts to infer from quantitative questioning as they cannot easily be described by quantitative numbering or scoring. As such, this

question was primarily addressed through analysis of qualitative interview themes that emerged around meaning and identity.

### **Quantitative Research Results**

Question 1: Is late-life unemployment related to involuntary retirement and does it impact health during the retirement transition?

Question 2: Does late-life unemployment impact perceptions of control?

To address research questions one and two, a quantitative approach was taken. Quantitative analysis was conducted using the Health and Retirement Study (HRS), with the RAND HRS (Version P)(Chien et al., 2015). The 2000 wave was used as the baseline sample and 2014 as the follow-up period. A total of 11,762 respondents were surveyed in the 2000 wave of HRS data collection. Inclusion criteria was an age of 50 or older in 2000, being listed as in the labor force (not disabled or retired) in 2000, and having provided responses to self-rated physical and/or mental health in the 2000 survey wave. The final sample size included 8,099 individuals who also reported self-rated physical and/or mental health (or listed in death records) in the 2012 survey wave. Quantitative analysis was conducted using STATA SE 14.0 (StataCorp, 2015). All variables were weighted with the population weights provided by the HRS survey and are scaled to reflect the U.S. population demographics for the Current Population Survey in March of each survey year (<http://hrsonline.isr.umich.edu/sitedocs/wghtdoc.pdf>).

Analyses included descriptive statistics reported as means and standard deviations for all continuous variables, and as percentages for categorical variables (see Table 1).

For the final sample of 8,099 individuals reporting prior health in 2000 and self-reported health or records of morbidity in 2012, the average age was 79.14 (SD=7.25) and 63.4% of the sample was female. There were 529 (6.5%) individuals who had experienced late-life unemployment after the age of 50, with an average combined length of unemployment of 17.5 months over the 14 years (SD=15.76). The average retirement age for those experiencing late-life unemployment was 65.06 (SD=6.03) while the average retirement age for those with stable late-life employment was age 63.66 (SD=6.55). A total of 47.0% of those experiencing late-life unemployment reported involuntary retirement timing and 3.5% felt partially forced into retirement. For those with no late-life unemployment the involuntary retirement rate was 27.9% with an additional 2.8% as partially forced into retirement.

Missing data on each variable was either less than 3% of the sample or identified as missing at random and there was a lack of multi-collinearity between variables (correlations ranging from  $r=-0.002$  to  $-0.504$  and VIF ranging from 1.02-2.27). Data for each variable was sufficiently normally distributed, though income data did present minimal outliers. There was no violation of the normality of the error terms analyzed both with q-q plots and Shapiro-Wilk's test for normality ( $W=0.99$ ,  $p<0.001$ ). In the regression analysis age, income, and health outcomes were treated as continuous variables and gender, race, ethnicity, education, region, and marital status were treated as categorical variables.

Late-life unemployment had no significant effect on self-reported physical health ( $\beta=.0015$ ,  $p=0.376$ ) (see Table 2). Regression models run for objective measures of

health (number of chronic conditions and the number of nights spent in the hospital over the past twelve months) similarly showed no significant effect of late-life unemployment on health. Late-life unemployment was significantly associated with lower levels of mental health ( $\beta=.0091$ ;  $p<.01$ ) (see Table 3).

**Table 1: Demographic information**

<b>Variable</b>		<b>N (%)</b>	<b>Mean</b>	<b>Range</b>	<b>Standard Deviation</b>
<b>Age</b>		8099 (100%)	79.14	50 - 99	SD 7.25
<b>Race</b>	Black/African American	1068 (13.2%)			
	White/Caucasian	6730 (83.1%)			
	Other	301 (3.7%)			
<b>Ethnicity</b>	Hispanic	653 (8.1%)			
<b>Gender</b>	Male	2953 (36.5%)			
	Female	5146 (63.5%)			
<b>Marital Status</b>	Married	4277 (52.2%)			
	Partnered	181 (2.2%)			
	Divorced	737 (9.1%)			
	Widowed	2557 (31.6%)			
	Never Married	231 (2.9%)			
	Other	166 (2.0%)			
<b>Education</b>	Less than HS	1550 (19.1%)			
	HS Graduate or GED	2985 (36.9%)			
	Some College	1769 (21.8%)			
	College Graduate and above	1795 (22.2%)			
<b>Income</b>		8099 (100%)	\$58,973	\$0 - \$4,040,971	\$99,829
<b>Unemployment Months</b>	Any reported episode of unemployment	529 (6.5%)	17.5 months	1 - 60	15.76
<b>Age of Retirement</b>	No unemployment	7570 (93.5%)	63.66	50 - 99	6.55
	Unemployment	529 (6.5%)	65.06	50- 83	6.03
<b>Involuntary Retirement</b>	No unemployment (N = 7570)	2112 (27.9%)			
	Unemployment (N = 529)	249 (47.0%)			

**Table 2: Factors associated with self-reported health**

	Estimated Regression Coefficients				
<i>Univariate Model</i>	<b>b</b>	$\beta$	<b>Standard Error</b>	<b>t-Value</b>	<b>Pr &gt;  t </b>
<b>Intercept</b>	3.120		0.013	248.10	<b>&lt;0.001</b>
<b>Unemployment months</b>	0.002	0.012	0.002	0.98	0.329
<i>Multivariate Model</i>					
<b>Intercept</b>	-11.393		3.613	-3.15	<b>0.002</b>
<b>Unemployment months</b>	0.001	0.003	0.002	0.21	0.836
<b>Self-report Physical Health 2000</b>	-0.435	-0.436	0.013	-32.75	<b>&lt;0.001</b>
<b>CESD score 2000</b>	-0.038	-0.066	0.007	-5.15	<b>&lt;.0001</b>
<b>Age in 2012</b>	0.008	0.059	0.002	4.27	<b>&lt;0.001</b>
<b>Gender (Male)</b>	0.000		0.000	.	.
Female	0.052	0.025	0.025	2.05	<b>0.040</b>
<b>Race (White/Caucasian)</b>	0.000		0.000	.	.
Black/African American	-0.103	-0.027	0.036	-2.81	<b>0.005</b>
Other	-0.077	-0.014	0.070	-1.10	0.272
<b>Ethnicity (Non-Hispanic)</b>	0.000		0.000		
Hispanic	0.001	0.002	0.050	0.20	0.843
<b>Household Income</b>	0.000	0.05	0.000	4.78	<b>&lt;0.001</b>
<b>Education (Less than HS)</b>	0.000		0.000		
GED or HS	0.085	0.040	0.037	2.29	<b>0.022</b>
No Degree, Some College	0.152	0.062	0.040	3.79	<b>&lt;0.001</b>
College Graduate and above	0.236	0.100	0.042	5.60	<b>&lt;0.001</b>
<b>Marital Status (Married)</b>	0.000		0.000		
Partnered	-0.514	-0.001	0.080	-0.64	0.521
Divorced	-0.036	-0.011	0.039	-0.92	0.356
Widowed	-0.029	-0.012	0.030	-0.97	0.332
Never Married	0.0353	0.001	0.073	0.48	0.629
<b>Census Region (East)</b>	0.000		0.000		
Midwest	0.004	0.002	0.037	0.11	0.911
South	-0.030	-0.014	0.034	-0.88	0.379
West	0.022	0.008	0.041	0.52	0.602



**Table 3: Factors associated with mental health**

	<b>Estimated Regression Coefficients</b>				
	<b>b</b>	<b><math>\beta</math></b>	<b>Standard Error</b>	<b>t-Value</b>	<b>Pr &gt;  t </b>
<i>Univariate Model</i>					
<b>Intercept</b>	1.302		0.023	55.89	< <b>0.001</b>
<b>Unemployment months</b>	0.014	0.052	0.004	3.23	0.001
<i>Multivariate Model</i>					
<b>Intercept</b>	17.940		6.332	2.83	0.005
<b>Unemployment months</b>	0.0112	0.039	0.004	2.58	<b>0.010</b>
<b>Self-report Physical Health in 2000</b>	0.333	0.185	0.026	12.90	< <b>0.001</b>
<b>CESD score in 2000</b>	0.297	0.284	0.018	16.14	< <b>0.0001</b>
<b>Age in 2012</b>	-0.009	-0.037	0.003	-2.77	<b>0.006</b>
<b>Gender (Male)</b>	0.000		0.000		
Female	0.122	0.032	0.047	2.58	<b>0.010</b>
<b>Race (White/Caucasian)</b>	0.000		0.000		
Black/African American	-0.183	-0.026	0.071	-2.58	<b>0.010</b>
Other	-0.017	0.002	0.145	0.12	0.906
<b>Ethnicity (Non-Hispanic)</b>	0.000		0.000		
Hispanic	0.204	0.027	0.108	1.89	0.059
<b>Household Income</b>	0.000	-0.007	0.000	-0.76	0.446
<b>Education (Less than HS)</b>	0.000		0.000		
GED or HS	-0.365	-0.095	0.075	-4.85	< <b>0.001</b>
No Degree, Some College	-0.357	-0.082	0.083	-4.33	< <b>0.001</b>
College Graduate and above	-0.530	-0.126	0.081	-6.56	< <b>0.001</b>
<b>Marital Status (Married)</b>	0.000		0.000		
Partnered	-0.209	-0.017	0.101	-2.08	<b>0.038</b>
Divorced	0.235	0.040	0.086	2.73	<b>0.006</b>
Widowed	0.363	0.086	0.060	6.09	< <b>0.001</b>
Never Married	0.325	0.038	0.137	2.38	<b>0.017</b>
<b>Census Region ( East)</b>	0.000		0.000		
Midwest	-0.218	-0.052	0.699	-3.12	<b>0.002</b>
South	-0.158	-0.042	0.067	-2.37	<b>0.018</b>
West	-0.103	-0.014	0.079	-1.31	0.192

Late-life unemployment was assessed for its impact on the sense of control individuals feel. The Lachman & Weaver control scale has two separate components, mastery and constraints. Constraints refers to the sense that things happen beyond the individual's ability to control them. Mastery refers to a sense of mastery and control over the environment. Regression analysis found no differences in the sense of constraint related to late life unemployment ( $\beta=.0130, p=0.641$ ) while controlling for sense of mastery. Similarly, there was no statistically significant difference in sense of mastery, controlling for sense of constraint, between those experiencing unemployment and those who did not ( $\beta=-.0328, p=0.237$ ).

### **Qualitative Research Results**

Question 3: How are perceptions of control related to occupational balance and well-being?

Question 4: How does late-life unemployment impact perceptions of self and meaningful engagement?

Research questions three and four were addressed through qualitative inquiry. Interviews were collected by volunteer participants attending the Huntsman Senior Games in St. George Utah in October 2016. Thematic analysis was conducted in a 5-step process of interview transcription, coding nodes, quote extraction, data checking, and theme analysis. Thematic analysis and coding were performed using NVivo 11.0 Software ("NVivo qualitative data analysis Software," 2014).

There were a total of 176 participants at the Huntsman Senior Games who completed demographic and survey questionnaires along with a qualitative interview. Descriptive statistics were reported as means and standard deviations for all continuous variables, and as percentages for categorical variables for the demographic and survey questions (see Table 4). The demographic and survey data for the qualitative sample are presented along-side descriptive statistics for the HRS quantitative sample for direct comparison of the sample characteristics. The Huntsman sample shows a higher percentage of male participants, Caucasian race, and married individuals than the HRS sample, also with higher levels of college education and income. Self-reported health was much higher for the Huntsman qualitative sample, with 100% of respondents reporting good or better health status, while only 69% of the HRS sample reported good or better health.

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**Table 4: Demographic information (HRS and Huntsman samples)**

		<b>N (%)</b>	<b>Mean</b>	<b>Range</b>	<b>Standard Deviation</b>
<b>Age</b>	HRS	8099 (100%)	79.14	50 - 99	7.25
	Huntsman	179 (100%)	70.57	43-91	9.57
<b>Income</b>	HRS	529 (6.5%)	\$58,973	\$0 - \$4,040,971	\$99,829
	Huntsman	2 (1.1%)			
	Huntsman	12 (6.7%)			
	Huntsman	29 (16.2%)			
	Huntsman	41 (22.9%)			
	Huntsman	81 (45.3%)			
	Huntsman	14 (7.8%)			

**Table 4 (Cont): Demographic information (HRS and Huntsman samples)**

Variable		HRS N (%)	Huntsman N (%)
<b>Race</b>	Black/African American	1068 (13.2%)	7 (4.0%)
	White/Caucasian	6730 (83.1%)	156 (89.1%)
	Other	301 (3.7%)	6 (3.6%)
	Missing	0 (0.0%)	6 (3.4%)
<b>Gender</b>	Male	2953 (36.5%)	97 (55.4%)
	Female	5146 (63.5%)	75 (42.9%)
	Missing	0 (0.0%)	3 (1.7%)
<b>Marital Status</b>	Married	4277 (52.2%)	135 (77.1%)
	Divorced	737 (9.1%)	18 (10.3%)
	Widowed	2557 (31.6%)	13 (7.4%)
	Never Married	231 (2.9%)	3 (1.7%)
	Other	347 (4.2%)	3 (1.7%)
	Missing	0 (0.0%)	3 (1.7%)
<b>Education</b>	Less than HS	1550 (19.1%)	1 (0.6%)
	HS Graduate or GED	2985 (36.9%)	19 (10.9%)
	Some College	1769 (21.8%)	43 (24.6%)
	College Graduate and above	1795 (22.2%)	110 (62.9%)
	Missing	0 (0.0%)	2 (1.1%)

**Table 5: Involuntary retirement**

	Sample Size	Voluntary N (%)	Involuntary N (%)	Partial V/I N (%)
<b>HRS Sample (Quantitative)</b>				
Stable Employment	617	418 (67.5)	172 (27.9)	17 (2.8)
Unemployment	85	41 (48.2)	40 (47.0)	3 (3.5)
<b>Huntsman Sample (Qualitative)</b>				
Stable Employment	117	100 (85.4)	17 (14.6)	0 (0.0)
Unemployment	12	5 (41.7)	5 (41.7)	2 (16.6)
Missing	50			

Addressing research question number three, the HRS sample showed no significant differences between those experiencing late-life unemployment and those who did not, in their sense of mastery or constraint. I queried the voluntariness of retirement in terms of whether individuals felt they had control over their retirement timing. Of the 176 interview participants, 25 were identified as having experienced some form of unemployment or being forced into an early retirement due to company lay-offs, however only 12 of those individuals reported on the voluntary or involuntary nature of their retirement timing (see Table 5). Of the 25 individuals identified with unemployment in qualitative interviews, many did not report an episode of unemployment in survey question format. Instead, they reported the experience as retirement rather than as an episode of unemployment, with the unemployment only revealed during qualitative interviewing. The blurry distinction between early retirement and unemployment is evident in their statements on the experience.

“Well, uh, I actually got pushed out a little bit.”

“Oh, well it wasn’t really my decision, they closed down the office where I worked so I, and luckily I was only 55 and they gave me early retirement.”

It wasn’t voluntary in that they came to me and said hey, the situation here. We need to cut back on people. We’ll give you a year severance package if you would retire today. If you don’t want that severance package, we’re going to have to let you go.

“And then I retired. ...she had to let me go because (the) company closed their doors...”

These comments capture the experience of nearing retirement age with a lack of job security and captures the ways individuals navigate that change into retirement. The words add context to the hard numbers presented in Table 5. From the 176 Huntsman Senior Games participants who completed survey data, there were 129 who provided information on whether their retirement was voluntary. Of these 129 respondents, 12 had experienced late-life unemployment (see Table 5). For those without unemployment, 100 (85.4%) reported that retirement was voluntary and 17 (14.6%) reported involuntary retirement. Of the twelve individuals with late-life unemployment in this subset, 5 (41.7%) reported involuntary retirement. Yet when pulling information from the qualitative interviewing, two of the twelve who had reported voluntary retirement later mentioned that they felt pushed into retirement. This earlier than planned retirement in the face of unemployment suggests that actual involuntary retirement timing for those experiencing late-life unemployment may be closer to 58.3% in this sample. For comparison purposes, the subset of HRS survey respondents who were asked the question of the choice in retirement are presented (see Table 5).

Addressing research question four, the interview questions queried issues of choice, identity, relationships, and activity in retirement. A presentation of the themes that emerged should be considered within this context. A few of the respondents mentioned that the episode of unemployment had little impact on their lives, having jobs in industries in which they could quickly navigate to a new position. “All I had to do was

get my resume out there to a few, interviews, salary negotiations, and that was it. Yea it wasn't a big deal." But for the majority there is no doubt that the experience of unemployment late in life was a distinct challenge. Either the timing, the type of work, or the economic conditions of the lay-off put these individuals in positions where the option to find work again seemed difficult. This is consistent with the literature presented that suggests higher unemployment rates in a society have a greater impact on older adults, causing increased length of unemployment and a younger age of retirement (Coile & Levine, 2011; Coile et al., 2012). For many, the option to retire seemed to be their best or only option.

When I was terminated, that was at the time when everyone was out of jobs and so the jobs were not available then, that was not a good time for looking. So I guess if I wanted to jump right into the workforce. That might have been hard.

The experience of ageism in re-employment, or at least the perception of ageism was evident in some cases. One woman talked of being let go from her job when she reached the age of 65. She had planned to work into a graduated retirement, first at 4 days a week, then 3, then 2. She had talked to her boss. But then unexpectedly found herself terminated. She was encouraged to see a lawyer. While the lawyer felt she had a good case, after being informed of the difficulties of a jury trial, and the emotional toll it would take, she ended up with just a conversation with the old boss and a severance package. Others felt the same sort of ageism, "I was without work for 10 months after that because no one wants to hire a 52-year-old ex-airline employee." And for others, the

issue of age was more personal than corporate, “It was just that I didn’t want to look for a job at 62.”

For those who struggled, the effects were both economic and emotional.

I started working 1/3 of what I had been making before. Fortunately, my wife was working too, so we did, we did alright. We managed. It was an adjustment, it was, it was a time of trial, and uh I passed it. Not without a lot of anguish and problems.

The challenges of job loss have an economic impact but also an impact on choice and control in retirement timing. The Government Accountability Office calculates that an individual who loses 2 years to unemployment which drains \$70,000 in retirement savings would require an additional 3.5 years of work to recoup the lost retirement income (GAO, 2012). This estimate was the reality for one of the participants who informed us, “I lost probably 3 years. You know, because I had to work the three years to make up full retirement.”

The Agency Restriction theory, on how job loss can lead to negative health consequences suggests that limited choices are at the root of health effects (Fryer, 1986). In this context of forced retirement decisions, the limitations on choice extend past the period of job loss into the retirement years. “Well I enjoy working when it was good money and good benefits, so yeah and I, I would have continued working if I’d had the choice.” For some, the limitations in choice that result from the push into early retirement are so severe that the impact affects decisions about daily necessities. The



high costs of insurance premiums in the Affordable Care Act era were mentioned by two participants, where loss of insurance at work put them into a position with no health insurance. “Well the Obamacare truly was too expensive.” For another, it was a forced choice that eliminated the health insurance option.

It was kind of like okay, you want to eat and live, or you wanna be insured. And so I chose eating. I figured that was going to be healthier than using insurance because I didn't eat.

Through these challenges and limitations among those who experienced job loss, several themes emerged.

### **Retirement is a Curvilinear Process**

As individuals discussed their choices and their adjustment process, a common theme was the non-linear nature of the retirement transition. A traditional experience of an orderly transition from full-time work to full-time ease was the exception rather than the rule among individuals who had experienced episodes of unemployment late in their working life. The reasons for this curvilinear process were complex, and may have little to do with the employment conditions, but were perhaps more existential and relevant to all retirees.

It can be hard to imagine and hard to plan for an unseen future existence. Particularly if the future is to be very different from the current reality, the likely result is twists and turns in the road between planning and outcomes. This curvilinear process is seen in the hard retirement journey experienced by one participant. His journey started

with a planned full-retirement that immediately altered his reality. “I ended up spending time with my wife 24/7. It’s too much! You need some apart time to appreciate each other better.” They first chose to sell the home and buy an RV. After 2 years of RV life, they decided they preferred a brick and mortar home. So they bought a nice cottage on a golf-course retirement community in Idaho. After eight months of shoveling snow, that envisioned future had hit the brick wall of reality and they sold-out for Gold Canyon Arizona. That move meant being nearer to grandchildren, but closer to the toxic fumes of a freeway, necessitating another move. It can be hard to achieve the desired quality of life when there are so many unfamiliar options available.

The initial transition to retirement doesn’t suit everyone. For many it was a difficult adjustment to leave work behind, prompting some to return to work or look for new ways to manage the change. One respondent replied, “I got tired of being bored, so that’s why I went to work.” The idea of wishing the retirement decision had gone differently was common. “If I had to do it over again, I would take a 90 day leave of absence and go back to work.” For another, “Sometimes I regret it but in the beginning, within the first five years I said I should have stayed.” While retirement suited others just fine, they still didn’t always end up making the choices they expected to make.

I guess before I retired I had lots of things, lists, that I might want to do during retirement...I thought of volunteering various places, tutoring children, lots of different things. After I had that time home I thought I don’t want to do any of those things! And that was on to me, because you know, they sounded wonderful while I didn’t have the opportunity to do them because I was working.

When I had that time ...? But oh, but I've found some things to do but they are not what I thought I'd be doing!

This woman's experience was not unique and is a realization that seemed to strike many in this group. There are things that sound wonderful, but when they are a little closer to reality, often they are recognized as unsuitable or undesirable. This is relevant to multiple areas of retirement; retirement activities, retirement location, retirement relationships, and the general use of time. In the majority of retirement stories shared, there was an element of the unexpected, of different trajectories and life choices, and almost always a theme of adjustment. Which speaks to another emergent theme, a pattern of resilience.

### **A Testament to Resilience**

Among the retirees experiencing unemployment in the years prior to leaving work behind, there was often a decision point. Three of the twelve had taken a promotion or transfer to a new position that had left them more vulnerable to precarious employment. Hindsight is 20-20, and looking at a past undesirable decision in the light of full knowledge of the future can be uncanny, uncomfortable, and inordinately difficult. This was also true for a few who chose an early retirement that reduced their financial security. This feeling of having made a mistake also struck one respondent who chose not to take an offered transfer out of state, if just for a few years to secure the better pension. The feeling of loss was only realized years later, as the pension income wasn't meeting daily needs and desires for comfort in retirement. In the moment of decisions, the twists

and turns of a future existence can be impossible to predict, and thus impossible to calculate a perfect mathematical outcome.

Yet resilience was evident in most every case. Comments on resilience and adjustment arose unprompted, as individuals reflected on their challenging experiences. It seems that these retirees were quite adept at accepting the current reality of their life circumstances, in ways that allowed movement into a place of relative peace. One individual stated it simply as, “I should have stayed. But I’m happy now.” Another similarly found peace, “Well I would have like to have worked another 5 years but since it happened, it’s happened so I’m good with it.” For this individual, peace is expressed in his new occupations of homemaking and artistry and a persistent hope that one day, someone will discover his art, buy a lot of it, and provide him with a bit more financial security. This resilience is even seen in the upbeat declaration, “But oh, but I’ve found some things to do but they are not what I thought I’d be doing!” Though the retirement transition wasn’t perfect or easy for many, adjusting and adapting provided keys to ongoing contentment. This sort of adaptation appeared to be the rule rather than the exception for this sample of active adults attending the Huntsman Senior Games.

### **Engagement and Enjoying Life**

Along with stressing the importance of financial planning, many retirees attributed their successful adaptation to engagement in activities that filled their days and their lives with purpose. This theme of activity was strong and persistent throughout the interviews.

“But to me, you’ve got to stay active. Stay active or you’re in big trouble.”

“I just like being retired. Because I’m never bored. There’s working on the house, working on the cars, playing ball...it’s a lot. Do I regret it? No.”

“I mean, there’s just so many activities keeping, I mean, playing pickle ball, go to the gym, I play bridge, so, I would say I’m, probably, you know, dance. So, just the fun of it.”

“I mean I’m retired, but I have a full schedule, I’m doing something every day.”

I would say, they need to find them something to do. Just don’t sit in front of the TV all the time. I mean, get your heart, find your interests, start planning for what you want to do and think about what you want to do.

When asked ‘what is the hardest thing about retirement’, one woman just laughed. That emotional expression reflected a joy in retirement that was evident in so many individuals as they discussed what they love about retirement life.

“But quality of life is, I would have retired a lot earlier if I had known it was this much fun.”

“I’m still busy, it’s just on my own time, doing what I want to do, that’s the best part.”

“I’m freer than I was before because I don’t have a job to hold me back.”

“I get to do whatever I want to do. I don’t have to march to anyone else’s tune”

“Every day is your own. To do with as you wish, and that’s true wealth in my opinion”

Notice that the expression of freedom was often tied to the construct of doing, expressed as freedom to ‘do’ whatever one chooses. The companion idea that time is more valuable than money, that true wealth comes from autonomy and agency, was expressed by many. “I love the freedom. I’ve always said I like time more than money.” And this was echoed by another, different words, but almost exactly the same sentiments. “Retirement doesn’t pay as well as employment, (but) there are other benefits.”

For some, activity engagement was hard to achieve without paid work, so they simply returned to the workforce after the initial decision to retire. “Well, it brings money in....and then it just keeps you from being bored and it keeps you active.” And for another a return to work seemed a natural solution to finding too much monotony in retirement, “I got tired of being bored, so that’s why I went to work.” But working after an initial period of retirement for these individuals looked very different than a full-time working arrangement. Their working choices in retirement continued to value time over money.

“And it’s been nice to have a little more time and a little more flexibility. That’s the upside of only working part time. You’re able to devote a little more time to your health and exercise.”

Well when I worked full time, I was expected to be there from 9, sorry from 9-5 and now I can work Saturdays, Sundays, I can take off for a week or two

and go to a national tennis tournament or come somewhere like this and if I don't work I don't get paid but then I have the freedom to move about.

“I took a job, I mean, he's an easy boss.”

“It's kind of a hobby job. When you have, when you have a skill, people come to you and ask you to do things.”

One woman who chose to work part-time in retirement, 4 hours a day 4 days a week, said she would work that way as long as her boss continued to offer her the flexibility of schedule she needed, with time-off as needed. In fact, her boss values her work and honors her need for flexibility so highly, the boss times her own schedule and hours around her part-time retired employee.

“My favorite thing about being retired? Is being able to do whatever I want to do. And I think that my boss understands that, because I think she wants me, to keep me still working.”

So even when paid work is the chosen activity in retirement, the opportunity to work in flexible arrangements shifts the dynamic and meaning of the role of work in the daily schedule.

### **A Shifting Identity**

Interviewers asked participants questions about their sense of identity and whether this changed in retirement. One thing that became apparent is that the conversation of a work-based identity shifts when people enter retirement age. One respondent said,

If somebody I met for the first time said what do you do? I say I'm retired. Then they'll say, so what do you do with your retirement? And I'll say I do all of the cooking and cleaning at the house.

Doing in retirement takes on a different meaning and is no longer associated with what you do for a job. For one participant, the answer to a question of what do you do was both easy and inaccurate. He said, "I'm retired and I don't do anything." Yet if you ask the question in a different way, asking about activities, he had a long list of what is contained in his 'don't do anything' declaration. Querying the construct of 'doing' evoked an answer related to work versus retirement, rather than activity more generally.

These conversations suggest the importance of paid work in our cultural language and discussions about 'doing'. This cultural viewpoint stressing the importance of productive activity was brought up by a few of the individuals who experienced unemployment in the pre-retirement years.

Well, working is so much a part of person's life, especially if they like what they do, and they appreciate that they are contributing to society, and they feel as though the work they do is important and they do a good job. That is important to a person.

The strong pull of a work-based identity was one of the challenges another faced in her adaptation from being laid off into an early retirement.

...I don't feel as worthwhile and I have tried to fight against that, but sometimes you know (how) you equate someone paying you with worth? And it's a silly way



to feel, but I can't help feeling that way to some extent. I'm not as worthy, and I'm not as good because no one is paying me for what I do.

Losing that important method of societal contribution and meaning can be devastating, but for most, resilience and adaptation follow in some form or fashion.

...someone indicates they no longer value you, and you can't help but take it hard a little bit, and I did a little bit, and I felt a little bit worthless and little bit rejected, and pretty angry actually. But it passed within a few weeks or months, and I know that I have value.

For individuals who defined their existence around social meaning, the retirement transition seemed fluid. For one woman "it's all about family," and she described her daily scheduling as primarily centered around who she would choose to spend time with for that day, even though she was still working part-time in her retirement. Her focus was social and not based in a work-identity. One single man with no grandchildren commented on how the conversations with peers always centered around family and grandkids. He didn't have that, but hadn't known he missed it until he moved to a retirement town. Now he was thinking he might want to find a little more social meaning in his life. In either case, whether work based or social based identity was lacking, the retirement transitions necessitated a realignment of the sense of identity in some.

To ask about the essence of a person who is retired, I realized that the question of "doing" was not as relevant. The long list of activities cited above, the pickle ball, going to the gym, fixing the cars, housekeeping, and athletic clubs didn't quite make it onto the

list of identity icons. Retirees didn't describe themselves in terms of their sporting or social events. When asked 'what do you do?', they didn't say "I play baseball," or "I'm a bridge champion." The social roles came up, "I'm a wife, mother, and grandmother," but not with consistency. So despite frequent discussion of activity and involvement, there isn't a single messenger or container of meaning that replaces "doing" for identity descriptors in retirement. There is still much to be explored here in terms of how retirees construct their sense of identity and meaning.

### **Mixed Methods Results**

Bringing together the findings of the quantitative and qualitative results, the explanatory sequential design addressed the complexity of unemployment and retirement constructs by combining the power of a large sample size of seniors with the detailed insights from a small group of interviewees. A summary of quantitative and qualitative results on key outcomes are presented side by side in Table 6. A full discussion of the complementary findings and the implications of the combined quantitative and qualitative analysis is detailed in Chapter 5.

**Table 6: Results Comparison (HRS and Huntsman Samples)**

<b>Mixed Methods Results</b>	<b>HRS (Quantitative)</b>	<b>Huntsman (Qualitative)</b>
<b>Perceptions of Control</b>	Perceptions of control did not significantly influence health status	Restriction of agency was noted as a significant challenge due to income loss by unemployment or forced retirement for many respondents
<b>Occupational Balance and Well-being</b>	A significant difference in mental health for those experiencing late-life unemployment. No differences related to activity level or sense of control.	Constructs of “doing” differ in their significance in retired individuals with consequent implications for occupational balance in the retirement years.
<b>Perceptions of Identity</b>	Not evaluated	Identity shifts during retirement toward less focus on productive activity. The types of socially endorsed activity which can provide meaning may differ in retirement.

## **Chapter 5: Discussion**

I began this discussion of late-life unemployment’s impact on retirement by noting the fact that work is a multi-cultural construct with universal adoption while retirement as a life stage is more narrow and of recent social construction (Primeau, 1996; Weisman, 1999). The latent benefits of work, in providing rhythms of time use, social contacts, a participation in collective purposes, an acceptable social status, and a defined personal identity, serve as a foundation for understanding the importance of productive occupations in daily lives of individuals (Jahoda, 1982). Retirement as a life stage likely has similar needs for rhythms, meaning, and sociality, but perhaps with

differing expressions. Given the strength of occupational constructs in societal patterns, shifts in productive labor that occur at the time of retirement likely necessitate a re-defining of occupational identity. It is in this context that I asked the question of how a cessation of work opportunity through job loss and lay-offs just prior to retirement age might impact the occupational lives and identities of individuals.

### **Complementary Findings**

The qualitative interviewing revealed evidence of the significant challenges that the majority of older individuals in the sample faced when unemployment struck late in their working career. Prior research has found that unemployment occurring late in life has a greater impact on older workers than on younger ones. There were 30% of workers over age 54 who remained without work 5 years after job loss, which is triple the rate for younger workers (Coile & Levine, 2011). Evidence was presented that older unemployed workers may have difficulty finding new employment that matches their prior income in addition to facing the traditional job-search challenges such as updating skills for a changing job market (Chan & Stevens, 2004). Past research has identified an earlier retirement age among those with job loss (Johnson & Butrica, 2012; Voss et al., 2017), however, these findings identified an older retirement age. This is consistent with estimates by the Government Accountability Office which project that an episode of late-life unemployment lasting two years which drains \$70,000 in retirement savings would require an individual to work an additional 3.5 years to recoup the lost retirement income (GAO, 2012). There were a variety of experiences among interviewees that match these divergent depictions, unemployment creating early or late retirement timing, depending

on the circumstances. Some individuals in the sample reported being pushed into early retirement while others reported having to work longer following unemployment episodes to earn full pensions.

The qualitative interviewing revealed evidence of this tension surrounding a late-life job search. One individual reported taking a 2/3 cut in pay in order to find re-employment while others perceived ageism in their lay-offs, job search, and re-hiring processes. Economic recessions that prompt late-life unemployment might also prompt early retirement (Coile & Levine, 2011). One man mentioned the role of the economy in that his lay-off occurred when so many others were out of work, he thought an employment search would be fruitless and didn't even try to find work. Many just mentioned that because early retirement was offered, they took the opportunity when it came to them, preferable to the alternative of being laid-off. It has been noted that referring to this job change as retirement reduces the social stigma that accompanies unemployment (Hetschko et al., 2014). Given these added burdens of a job search late in a career, retirement offers an acceptable social and financial option for some facing job loss. It is in this context that choosing an early retirement might feel like a no-choice scenario.

It is perhaps not surprising then that the qualitative sample who had experienced late-life unemployment reported involuntary retirement timing at nearly three times the rate of those with stable employment (41.7% compared to 14.6%) (see Table 5). The proportion of Huntsman Senior Games respondents who had experienced unemployment reported involuntary retirement at a rate similar to the national HRS sample (47%). With

the qualitative interviews, I had the opportunity to probe these retirement decisions. I found that the distinction between voluntary and involuntary retirement became less clear following unemployment. This lack of clarity perhaps suggests that the national HRS survey data showing that 3.5% of those with unemployment feel partially pushed into retirement may reflect an underreporting of the data. This evidence suggests that retirement timing was regularly prompted by a forced decision to take a lay-off or early retirement among individuals with late-life job instability, and that 1/6 of individuals described this type of retirement as voluntary even when feeling pushed into the early retirement. The qualitative results showed that individuals reporting voluntary retirement nevertheless felt “pushed out”, that leaving work for retirement wasn’t really their decision, and that they didn’t have a choice even though they took the retirement package offered.

When the 1/6 of participants who described being pushed into retirement are combined with those who reported involuntary retirement, the rate of involuntary retirement among those with unemployment jumped to a total of 58.3%. This is higher than the national HRS sample of 50.5% of seniors with recent unemployment who felt partially or fully forced into retirement. This combined measure of involuntary retirement in this sample puts it at four times the rate for those with stable employment. Occupational deprivation is a useful theory for explaining the declines in mental health that were identified in this study.

This research process finding, that national survey questions may have been answered differently than personal interview questions, highlights the value of a mixed

method approach. This evidence reveals a distinct gap in the prior research on how late-life unemployment is defined and measured. A significant portion of individuals who felt forced into retirement, nevertheless, defined their retirement experience as voluntary. There has been no clear distinction or process put in place in past research on this topic to distinguish late-life unemployment from other forms of early retirement. It has been hard for researchers to distinguish through self-report surveys when unemployment has been the cause of early retirement and when it was experienced as involuntary. Often these episodes of unemployment are not reported as unemployment, but as retirement. This evidence confirms the premise that the effects of late-life unemployment have not been well studied because they have not been well defined or measured and further points to opportunities in future research to address this research gap.

### **Unemployment, Forced Retirement, and Health: Research Question 1**

Prior research has indicated that when job loss resulted in an early retirement selection, mental health declined, but workforce re-entry restored prior levels of mental health (Mandal & Roe, 2008). Unemployment has been consistently and reliably linked to negative psychological states and impaired mental health (Paul & Moser, 2009) and other evidence shows that the effects of job loss do not dissipate among older adults even when there is a return to work (Gallo et al., 2006). The quantitative analysis findings presented here confirm this prior research. In quantitative analysis of the HRS there was a direct negative effect of late-life unemployment on mental health (CES-D scores) in retirement.

These quantitative findings showed no significant effect of late-life unemployment on the physical health of retirees. Prior research has found post-retirement health is more likely to decline among individuals who experience involuntary or early retirement (Calvo et al., 2013; Rhee et al., 2016). Controlling for activity variables did not impact these findings. One important limitation is that the quantitative analysis is limited by the survey questions contained in the HRS. Analysis of the qualitative interviewing suggests potential error in the measurement of unemployment that occurs at retirement age, underestimating unemployment by as much as 1/6 of the unemployed. This error in measurement potentially skews any investigation into the effects of late-life unemployment on retirement health. If the HRS data is comparable, and as much as 1/6 of the respondents with unemployment misclassified their situation as retirement, the data analysis in this study could be flawed due to measurement error. If future surveys can capture this distinction between late-life unemployment and early or forced retirement and correctly identify when job loss has prompted the retirement episode, the analysis of the unemployment effects will become more accurate and may provide clarity into the current conflicting research on the topic.

#### **Themes in Retirement Transitions: Research Questions 2-4**

The qualitative interviewing revealed three important themes in discussing the retirement transition among those who had experienced late-life unemployment. These themes are the importance of choice in activities for quality of life, the tendency toward adaptation and resilience, and the natural process of shifting identity. It is quite possible that the agency which retirement affords some individuals along with a tendency toward



adaptation may ameliorate any negative physical health consequences that would normally occur as a result of retirement. Prior research has shown that early retirement that is planned or caused by a statutory age does not equate with negative health effects (Jokela et al., 2010), and it might be assumed that adaptation to a planned retirement will be a smoother process than a forced retirement. It was also noted that negative mental health effects of late-life unemployment were more pronounced among individuals at the lower income strata (Gallo et al., 2006), a group for which the resources for adaptation may be more limited. Almost 50% of the qualitative sample had an income over \$70,000 a year, compared to a total mean income of just \$58,973 in the HRS sample, suggesting that the themes of choice and resilience should be interpreted within that context.

**Choices and agency restriction.** The interviews identified many of the challenges of late-life unemployment, many resulting from limitations in choice. In addressing research question number 2, I asked whether perceptions of control might change as a result of late-life unemployment. In regression analysis, there was no differences between groups in the HRS quantitative sample in regards to levels of constraints (lack of control) or mastery (feelings of control). One limitation of this analysis was that only 310 individuals of the 8,099 in the sample answered questions regarding their sense of control. Despite a lack of a statistically significant finding in the quantitative sample, the phenomenological experiences of agency restriction were consistently mentioned by the interviewees in the qualitative sample.

Reviewing briefly these experienced restrictions in choice, some were related to ageism, either in the loss of their present employment or in frustrated attempts to find re-

employment. Individuals reported a gap in health insurance coverage when forced retirement was too early for Medicare benefits. This resulted in costs so high that some individuals had a forced choice about insurance.

“Well the Obamacare truly was too expensive.”

“It was kind of like okay, you want to eat and live, or you wanna be insured. And so I chose eating. I figured that was going to be healthier than using insurance because I didn’t eat.”

One of the significant challenges reported by many individuals was that their retirement income was significantly impacted by the episode of unemployment, cutting them off from full pension benefits. One respondent reported, “No, retirement is....retirement is what I want to do but can’t afford it.” Despite the theoretical foundation of latent benefits of work proposed in Jahoda’s model (Jahoda, 1982) and theorized as contributing factors to occupational deprivation, the larger proportion of participant comments reflected on issues of choice rather than social and meaning aspects of work. A loss of social connection with coworkers and loss of a socially endorsed purpose were mentioned by a minority of participants and are likely still relevant, though not the key interpretation that arose from these data.

The Agency Restriction theory suggests that the mechanism by which unemployment impacts health is through limitations on choice that impact almost every area of life, and which are the direct result from the limitations on income resulting from unemployment (Fryer, 1986). The loss of income was a challenge reported by many of

the respondents. To make things worse, the timing of late-life unemployment extended the economic impact of unemployment into their retirement years. Some interviewees reported losing access to pensions that they thought would fund their retirement. Others had to take highly reduced payments on their planned pensions. Others reported working extra years to make-up the lost income. The qualitative interviewing suggests that individuals who felt forced into retirement experienced a limited income that they described as limiting their lifestyle choices, consistent with agency restriction theory.

Agency restriction theory (Fryer, 1986) suggests that restrictions on quality of life during unemployment arise from the limited income which limits lifestyle choices. Though the issue of choice was fundamental. This is captured in the comment by one respondent, “So you know it was a horrible feeling, and it might pass, but there was no choice.” The feeling of having choices has been identified as a significant factor in the happiness of retirees, where choosing their activities provides a sense of control in life more generally (Rudman et al., 1997). Yet despite some limitations in choice caused by late-life unemployment, many respondents still found their retirement years to be a time in which control and choice was more freely available than during their working years. The freedom to choose activities and daily patterns was the most commonly mentioned benefit of retirement among these respondents.

“I’m still busy, it’s just on my own time, doing what I want to do, that’s the best part.”

“I’m freer than I was before because I don’t have a job to hold me back.”

“I get to do whatever I want to do. I don’t have to march to anyone else’s tune”

“Every day is your own. To do with as you wish, and that’s true wealth in my opinion”

While a restriction in agency was often noted at the moment of the unplanned retirement timing, individuals later reported how much they enjoyed their current freedom in time and the ability to choose their daily activities. Some had returned to work to manage the financial difficulties of an early retirement, but most noted that working in retirement was entirely different than working full-time. They worked part-time, at jobs that offered flexibility, took time off when they wanted, and were less motivated by the dollar amount paid by the work. Several individuals noted that they had let go of some affordances in life to trim their budgets, but it hadn’t trimmed their life satisfaction.

This strong positive view on choice emerged as a theme, yet there are two distinct limitations to consider in this interpretation. These interviewees were retired individuals who had already made it past the difficult episode of unemployment and had already navigated the period of change and agency restriction which occurred with unemployment. Additionally, these individuals were attending the Huntsman Senior Games. The Games incorporates non-athletic activities like bridge, but it also draws a crowd of active and involved seniors. These are individuals with enough income to travel and participate, and are likely not representative of the range of lifestyle restrictions that may impact seniors on reduced incomes. Yet even with this caution, several participants reported on both the prior restriction in choice as a hardship and the

current availability of choice as an asset. This adds evidence to the role that choice and agency play in the life satisfaction of seniors.

**Engagement and resilience.** The feeling of freedom and agency regarding everyday choices may be a factor in the theme that emerged regarding resilience and acceptance. This theme was unexpected and not included as a topic in the literature review, yet it emerged with regularity. In almost every instance, a discussion of a challenge was followed by an expression of hope or acceptance.

“I should have stayed. But I’m happy now.”

“Well I would have like to have worked another 5 years, but since it happened, it’s happened, so I’m good with it.

“I wasn’t happy with it, but then I thought well, this is alright.”

“I felt a little bit worthless and little bit rejected, and pretty angry actually. But it passed within a few weeks or months, and I know that I have value.”

Lingering depression or rumination about these challenges was not a topic that emerged from the qualitative interviews. The qualitative sample’s CES-D depression score of those with unemployment (mean=1.36, range = 0-8) did not differ from the HRS quantitative sample’s average score for the unemployed (mean=1.34, range = 0-8). This would suggest that the mental health scores of the seniors attending the Huntsman Senior Games did not differ from population norms.

Past research has found a lingering effect of late-life unemployment on negative mental health states and showed that it was more profound for those at the lower income strata (Gallo et al., 2006), suggesting that the Huntsman population of more economically advantaged seniors would be less likely to have the lasting impact of unemployment on mental health. The quantitative HRS analysis included income as a continuous variable in the regression model, accounting for income's differential effects, but did not stratify by income to allow comments on the specific effects. These findings showed a lingering negative mental health effect across the population of individuals with late-life unemployment from the quantitative analysis. While CES-D scores were not substantially different for the Huntsman Senior Games interviewees, the Games attract individuals with higher income levels and might explain a more resilient characteristic response toward unemployment in this sample. That this resilience might be a quality separate from mental health is a possibility, particularly if access to income is one of the resources used for successful adaptation.

The Huntsman Senior Games attracts active and involved seniors. Perhaps the active engagement of these seniors is indicative or reflective of their resilient natures. Activity might be a source of resilience or may simply be correlated with the ability to turn from challenges toward alternative life options. Two types of interview questions prompted their descriptions of activity as central to their lives or happiness. The first was the question as to what they liked most about retirement. The second was a question of what they thought were critical ingredients in a healthy retirement. The most commonly ascribed reason for their successful adaptation was their involvement in activity.

“But to me, you’ve got to stay active. Stay active or you’re in big trouble.”

“I just like being retired. Because I’m never bored. There’s working on the house, working on the cars, playing ball...it’s a lot.”

“I mean, there’s just so many activities keeping, I mean, playing pickle ball, go to the gym, I play bridge, so, I would say I’m, probably, you know, dance. So, just the fun of it.”

“I mean I’m retired, but I have a full schedule, I’m doing something every day.”

**Shifting identity.** In exploring the sociocultural contexts of employment and retirement in the United States, the monetization of time was discussed as a factor which has shaped labor relations in America. The theory suggests that this shift in the cultural consciousness created a push toward working more, as time become a monetized resource in the minds of individuals (Thompson, 1967). This orientation has implications for the aging worker, creating time (and thus monetary) demands that put the aging worker at a disadvantage given their slower pace (Skirbekk, 2004). These shifts in pace that occur with age potentially create a barrier to work-force re-entry for unemployed older adults. It may also relate to the hesitancy of some older adults to seek work-force re-entry when they were laid off after the age of 55. The pace and timing of seniors alters their use of time (Jonsson et al., 2000) and thus alters the ways in which time can be monetized.

From the reports of seniors interviewed at the Huntsman Senior Games, only a subset seemed to continue to rely on a monetized view of time to orient their activity and achieve occupational balance. The majority of seniors interviewed seemed quite content to let go of productive labor as an orienting frame. This preference for decoupling time and money was specifically mentioned in the interviews.

“Every day is your own. To do with as you wish, and that’s true wealth in my opinion”

“I love the freedom. I’ve always said I like time more than money.”

“Retirement doesn’t pay as well as employment, there are other benefits.

For those who found it important to acquire paid work in order to fill their activity schedule, some mentioned avoiding boredom as the key motivating factor. This subset of seniors continued to value the societally endorsed meaning found in work that is productive. Yet many part-time retirees tended to value freedom in their time and activity schedules over the dollar value of the work, as mentioned above. This potentially suggests that the decoupling of time and money is present, even in seniors who work for pay.

Thompson’s theory, that society has a tendency to only value time and labor when they produce something of measurable value, infers that employed individuals will be viewed with greater esteem. The interviewees at the Huntsman Senior Games were not immune to this point of view, and it was specifically expressed by two individuals who struggled in the period of transition from unemployment.



...I don't feel as worthwhile and I have tried to fight against that, but sometimes you know (how) you equate someone paying you with worth? And it's a silly way to feel, but I can't help feeling that way to some extent. I'm not as worthy, and I'm not as good because no one is paying me for what I do.

Well, working is so much a part of person's life, especially if they like what they do, and they appreciate that they are contributing to society, and they feel as though the work they do is important and they do a good job. That is important to a person.

And yet, these worth-based associations with productive and monetized societal contributions were only temporary transitions on the path to retirement. Both individuals who were able to directly express that losing work equated with the loss of a socially endorsed identity also showed signs of resilience and happiness in retirement. This ability to shift from a work-based value mentality to happiness in a non-productive role is perhaps indicative of general societal attitudes about leisure in retirement.

### **Occupational Balance and Occupational Identities**

Occupational balance can be used as a lens to interpret the role of activity in the lives of these seniors. The theory of occupational balance is defined here as engagement of time and talent in contextually meaningful activity as to promote subjective well-being. The expressions of these actively engaged seniors seems to capture this type of health-promoting balance. The theory of occupational balance holds that the right amount and the right mix of activity will produce enhanced quality of life (Wagman et

al., 2012). Among the seniors interviewed here, caretaking, religious activities, and volunteerism were not as commonly reported as were leisure-focused activities. Sports, social clubs (often athletic or gaming in nature), part-time work, non-sport hobbies, and travel were the most commonly mentioned activities. These activities in conjunction with daily care tasks like cooking and housekeeping were sufficient to produce high levels of life satisfaction (Mean=29.26, SD=4.67) and what appears to be positive occupational balance. In contrast, the life satisfaction scores of the HRS quantitative analysis one sample had a mean of 24.03 (SD=7.55), overall much lower than among this actively engaged group of seniors.

**The right mix of activity in late-life.** Doble & Santha (2008) mention the importance of individual orchestration as an element in occupational balance, along with the meaning and identity based aspects of occupation (Doble & Santha, 2008). The joy and freedom expressed by these seniors in their ability to choose activities fits well with the importance of individual orchestration as a key element of occupational balance for seniors. At first blush, the primary activities mentioned (with the exception of part-time work) by these seniors appear to have limited constructive or societal value. The activities most often reported by these seniors primarily benefited the individuals in terms of health or enjoyment. Jahoda's (1982) theory of the latent benefits of work holds that the occupational health advantage comes in part through participation in activity that is both socially endorsed but also socially meaningful (productive). It is interesting to consider that occupational balance might be achieved without engagement in activity that might be considered productive from a societal point of view. The meaning and identity

elements theorized as components of occupational balance may not be as relevant to an occupational balance model in a retired population (Doble & Santha, 2008).

**The right amount of activity in late-life.** Jonsson & Persson's (Jonsson & Persson, 2006) model of occupational balance is based in an experiential theoretical frame. This phenomenological model allows the flow of daily activities to be molded to the needs of the individual and may be a more relevant occupational model for seniors. The slowing of life pace in retirement that was noted by past researchers (Jonsson et al., 2000) was also evident in the qualitative interviews. For one individual this was described as, "I mean not being able to get as much done in a day as I used to be able to do." It is possible that the slower flow of daily activity for retired individuals impacts the experiential component of occupational balance. Balancing the calming, the exacting, and the flowing natures of their chosen occupations, Jonsson & Persson's theory allows for a different definition of exacting activity relative to the life pace of seniors. Productive activity from a traditional societal perspective may be more exacting than is appropriate to an occupational balance model for some older adults. This shift in what is considered meaningful behavior can be considered at either the personal or cultural level. This research demonstrated that many older adults were able to achieve the wellness that is seen with a balanced occupational repertoire without spending much time in productive (societally meaningful) behaviors. This modification to occupational balance theory applied in aging is likely related to the theme of shifting identities that arose in qualitative interviewing.

**The role of productivity in late-life activity.** The concept of retirement as a societal construct is now more than 100 years old (Weisman, 1999). In this time, the U.S. population has been aging and people are living longer (Werner, 2011), expanding the base of individuals experiencing retirement as an extended life phase. Occupational identity has been described as beginning in the earliest life years as a form of knowing oneself in a way that links person with the environment (Christiansen, 1999). This concept of occupational identity has a link with creativity and a desire to express oneself through forming, producing, and creating something of value which brings both personal and social endorsements. As the young child progresses toward adulthood, perhaps the biological basis of occupational identity is better linked to exploring the environment rather than creating from it. These seniors experiencing a shift in identity continue to engage in activity that explores their personal capabilities and continues their engagement with their environments, though few placed importance on producing something of societally endorsed value from the work of their hands and minds.

Rather than saying there was less productive activity among these seniors, it is perhaps necessary to shift the definitions of productivity. Often in aging contexts there are references to legacy building (Hunter & Rowles, 2005). It is conceivable that the retirees had shifted their view of productivity from labor that produces *things* valued in money to labor that produces *change* denominated in an impact on people. This type of production would be seen in spending time with cared for individuals, offering love, writing personnel memoirs for prosperity, service and volunteerism, or building the financial foundations for securing access to life-enhancing resources for extended family.

However, in the interviewing I asked about children and grandchildren, and any alterations in the use of time and relationships in regard to family during the retirement transition. I also asked about volunteerism and community service. This type of legacy building related to family, community, and future was only rarely the focus of the reflections on retirement lifestyle. The freedom in hobbies, sports, social groups, travel, and other activity reflections described above were much more notable. So while the possibility of a shifting definition of production toward legacy building was considered, it did not seem to be revealed through these data.

The seniors interviewed appeared to be very comfortable with a form of occupational balance with less emphasis on productive labor. They described their freedom in choosing activities with all of the same health-enhancing wellness benefits typically associated with occupational balance theory. Yet the identity descriptors, the names which tie occupations to the socially endorsed meaning, seemed to be somewhat lacking. The question of “what do you do” is not easily answerable in retirement. Many simply say, “I’m retired.” Notice that this statement is proclaiming the exact opposite of the question of what do you do. One man answered the question, “I’m retired and I don’t do anything.” Retirement in the original definition is retiring from labor into rest, yet inactivity did not describe the interviewed seniors.

One man felt he had to justify his reference to self-interested and non-productive activity to answer the question of ‘what do you do?’ “Uhm I’m a retired male that enjoys being retired you know, doing what I wanna do, you know?” These seniors were actively engaged, just not in activities that answer this question the way it is usually considered.

Many of the seniors felt their work-based identity descriptors of the past (“I was a teacher”; “I was a splicer”) didn’t adequately answer the question in the present, as if there was no good answer in the present tense. “Beyond saying I’m retired, I always go back to what I was. And so I am a retired accountant.” In fact, just answering the question by stating the status of retirement acknowledges and references the work-based identity—just by describing how the individual has moved away from work descriptors.

One interviewee noticed what was at the heart of the question. She saw past the occupational descriptions to the search for common social meaning, looking for a way to understand the person in the social context. She answered the question by referencing how she tries to connect and establish a relationship with the person in front of her, such as bringing up an activity or family characteristic they might have in common. Yet without easy reference to a socially endorsed identity (beyond retirement), the question was often directly avoided by others. One woman stated she always tried to think of a story that would make the new person feel comfortable, but without worrying about answering the question directly. Another man said he always reverted to humor, saying something to make the person laugh, again not describing how he identifies himself. As an interviewer, I wondered how one might ask the question differently. How could I ask in a way that would elicit the descriptors that would unlock an understanding of the occupational identity of these retirees? Rather than continuing to ask how an individual describes what they do, the question evolved over successive interviews to try to get at the heart of occupational identity;

“When you first meet somebody, how do you describe yourself, what do you say about yourself, to say this is kinda who I am?”

The interview questioning was running into perhaps the same shifting meanings that these retirees face and that society faces as the life stage of retirement extends into decades. The active lifestyles of retired seniors don't tie into an easy descriptive knot connected to productive labor, confounding a depiction of their occupational identity.

**The role of meaning in late-life activity.** In Wilcock's theory of the need for human occupation, she ties the need to use our capacities to biological drives. She cites theory that the shifts from manual work to machine work to paper work to electronic work created a production emphasis that does not serve basic human needs and thus disrupts rather than fosters occupational balance (Wilcock, 1993). It would appear that the shift away from productive labor has fostered rather than detracted from the occupational balance of many happy seniors interviewed at the Huntsman Senior Games. The demonetization of time, decoupling the time and money association which has been with Westernized societies since the era of industrialization, occurs for a subset of seniors who have adequate financial resources for daily survival. The majority of these seniors expressed joy and freedom in choosing occupations without productive outputs as they displayed signs of wellness in the process. These older adults have remained very active and have embraced the societal shift which allows a slower life pace in retirement and a shift away from productive labor in aging.

Yet there is no single messenger or container of meaning that replaces “doing” for identity descriptors in retirement. It remains to be seen whether economies and individuals can sustain a retirement phase that lasts 2-3 decades. If this pattern is sustainable, it is likely that ‘doing’ will be redefined. The term will either be decoupled from production in the mindset of societies or new questions will emerge. Wilcock’s descriptions of doing, being, and then becoming rests on the idea of purposeful (not necessarily productive) activity (Wilcock, 1998). Yet occupation based identities have always been tied at the foundation to a socially endorsed meaning (Christiansen, 1999). The descriptors for the range of socially endorsed occupational identities of retirement have not yet been defined but may emerge in the future. Certainly, this research of Huntsman Senior Games participants suggests occupational balance and wellness are available to seniors who engage in purposeful activity, even if it is not productive.

### **Conclusions**

In research question one, the role of time in late-life unemployment in occupational adaptations and health was considered. Activity was not a variable that changed health in a way that could be measured quantitatively in the HRS sample. When engagement in activity was added to the quantitative regression analysis, there was no difference in the significance of unemployment predicting health outcomes. This suggests that activity did not have a significant impact on the relationship between unemployment and health. The qualitative interviewing showed some seniors opting for bridge employment, with flexible paid work arrangements providing opportunities to engage in meaningful work and avoid self-described boredom. The wellness enhancing effect of this type of



occupational engagement which was described by some seniors is consistent with evidence that bridge employment during retirement is associated with life satisfaction (Dingemans & Henkens, 2014) and better health (Zhan et al., 2009). But this form of life satisfaction was only identified in the minority of interviewees and could not be said to describe the group as a whole.

In addressing research question number two, the sense of control, of constraints and of mastery, did not impact the health effects of the unemployment experience. An important limitation in this analysis resulted from a mistake in the Huntsman Senior Games Qualtrics survey compilation that left out the 10-item sense of control scale (Lachman & Weaver, 1998) from the survey administration. Thus no direct comparisons to the HRS data in the quantitative analysis could be drawn. However, the qualitative interviewing confirmed that perceptions of control were highly relevant both in the disruptions caused by late life unemployment as well as to the wellness and occupational balance in adaptation as discussed above. The themes of choice and control that emerged from the interviewing, such as the freedom to do what individuals wanted with their time, affirm prior research on the importance of control and choice for wellness in seniors (Rudman et al., 1997). In answering research question three, it appears that agency restriction and the limitation placed on choice may be factors in the negative mental well-being of individuals facing late-life unemployment.

In addressing research question four, I identified a pattern of identity shifts and disruptions present both at the time of late-life unemployment and also in the retirement transition. These disruptions were discussed in relation to the shifting values and

priorities of aging. Many seniors were able to find sufficient meaning to enhance occupational balance through purposeful, not necessarily productive, behaviors. The decoupling of time from money in the activity priorities of seniors interviewed in this study was notable and may be a necessary factor for systems seeking extended employment in aging contexts. The rigidity of current work or employment frames may not offer the level of flexibility that is necessary at this stage of life. One woman found her job role terminated when she asked to work 4 days a week for a year and 3 days a week the next year before retiring. Another man gave up a secure pension when lay-offs were coming late in his life and he was asked to transfer to an office in a different section of the country, where he could have earned a full pension with 2 more years of work. Uprooting and moving at the age of 62 for the sake of a job is a type of forced choice that may not be considered reasonable for seniors. Asking or expecting these individuals in their 60's to follow the same work norms of full-time younger workers doesn't perhaps reflect their life-stage concerns. Once money has been decoupled from time, as it does for older adults approaching retirement, their choices may change to reflect their new priorities and values.

This finding of freedom and choice in the use of time and activity suggests changes to the current employment programs are needed if older workers are to be included and retirement age extended. Older workers may need to be offered flexibility and reduced schedules, rather than aging out of a full-time, 40-hour a week, employment system directly into full retirement. Perhaps one of the reasons that retirement was curvilinear, with unexpected turns and twists, was that the old societal prescription that

you retire from a career job directly to full-time leisure is not a path that most people want to follow in this life-stage. If there is no pathway in traditional jobs for achieving productive activity that honors the increased needs for flexibility and freedom in senior workers, seniors may be feeling pushed out of productivity in the same way they have felt pushed out of work.

### **Reflections, Limitations, and Future Directions**

I think it is beneficial to provide a posthoc on my learning curve during the research process. It is with great appreciation that I acknowledge the support and contribution of my mentors and collaborators in this research process. I was able to stay consistent within the phenomenological framework I selected for this research by valuing and honoring the life experiences of the seniors who shared their stories with me. I was amazed at the level of planning necessary to conduct the sequence of interviews, as well how easily mistakes could be made that were disruptive to the research goals (the accidental exclusion of planned survey questions). Through the process I experienced the stories of seniors with amazement, some wonder, and a great deal of philosophical angst as I saw contradictions between my understandings of occupational theory and their lived experiences.

Consistent with my world view, many of the seniors had lived lives of a great deal of productivity and service and spoke warmly and with pride when reflecting on their past contributions. Beyond their work lives or their mothering lives they had performed extended care-taking, hours of volunteer service, served as coaches, tutors, Sunday school teachers, the list goes on and on. But repeatedly many spoke of this time of

engagement as having ‘served their time’, and that now it was time to pass the torch of service to others.

This feeling that the major years of productive labor to society had come to an end in retirement reminded me of the foundations of the life stage of retirement. Retirement emerged as a life-stage in an era when economies had slowed and there was more need for the younger productive workers and less need for those who were older and slowed in pace (Weisman, 1999). As a consequence, economies shed their older workers into retirement. Rather than rankling at the idea that they would no longer be relied on for service and productivity, these seniors spoke of fondness of placing themselves on a shelf, letting younger folks do the heavy lifting of service to communities. In the process of accepting retirement as a life-stage of non-productivity, they had freed themselves up for pursuits of purposeful and enjoyable activities in sports, sociality, and travel.

These life experiences and perspectives stand in direct contrast to the theory I had learned in psychology, that the progression of needs takes us from early social needs through industry phases that eventually lead either to generativity or stagnation as the final life-stage (Erikson, 1956). Many, if not most, of these seniors placed very little emphasis on generativity in discussing their activities (they had passed this torch) but they were nowhere near living in stagnation. These seniors appeared to be flourishing. This flourishing without productivity was a contradiction to what I expected, but also consistent with the theme of resilience that emerged from the qualitative interviewing.

These individuals were adapting to their social worlds and contexts and embracing a life of purposeful activity, finding occupational balance in the process without productivity.

The research process confirmed what was anticipated as projected limitations in this research goal. The definitions and measurement of these identified constructs were problematic. The primary finding that late-life unemployment is misidentified and mislabeled by those who experience it is both an important limitation of this research project as well as an important contribution to the science. Additionally, I had proposed that analyzing health as a combined construct related to both physical health and overall wellness would be problematic in this research. Yet I think this may have been an advantage rather than a limitation, in the same way that resilience is a construct that reconceptualizes challenges as opportunities. This analysis did not identify late-life unemployment as having a negative physical health effect, though it did identify both short (qualitative analysis) and long-term (quantitative analysis) effects on mental health. Yet the more significant finding was the resilience of these seniors in the face of life challenges. Wellness is a construct of comprehensive health that goes beyond physical or mental health to capture the full range of the lived experience, including aspects of social health and resilience. Further, these seniors ascribed purposeful activity and choices in time-use as significant mediators of their occupational balance in retirement, and this level of choice in their current context was not restricted by their prior experiences and challenges. In this way, the cross-construct definitions of health and wellness used in the analysis fit the interwoven and complex experiences of health as mediated by both the experiences and adaptations of individuals.

Final limitations that I should note include the non-representative nature of the qualitative sample, drawn from seniors with the ability and desire to attend the Huntsman Senior Games, as well as the necessary brevity of the interviewing that resulted from that venue. The nature of this event involves both athletic events, but also cognitive events such as card games. The demographics of individuals able to attend such an event differ from the national sample in the HRS dataset. Because the study offered no incentives for participation, the interview was designed to take less than 30 minutes. Despite these important limitations, this research design offered an opportunity for completing a mixed method analysis with rich interpretive findings. The abbreviated interviewing combined with existing dataset analysis allowed us to utilize the powerful interpretative potential of an explanatory sequential mixed methods design without significant limitations in time and effort required to obtain two distinct data sets (Creswell et al., 2011). The findings of this study advance our understanding of the occupational complexities of lost job opportunity in the pre-retirement phase of life.

Future directions for research should build upon these study findings in identifying enhanced measurement of unemployment late in life. The existing HRS survey questions related to unemployment and involuntary retirement timing are insufficient in identifying retirement prompted by lost work opportunity. Additional questions could be added to the leave behind portion of the HRS survey to query the role of job loss in retirement timing. Additionally, the themes identified related to resilience should be studied as potential mediators of unemployment health effects. An experimental module of the 1993 HRS survey queried the construct of resilience, but this

module was not included in the full survey. The construct of resilience should either be included in future surveys or described in relation to currently studied variables in order to allow future quantitative research on retirement to address this adaptive quality.

Finally, the shifting identity and the satisfaction in purposeful but non-productive activity among retired seniors should be studied relative to its implications for occupational balance models. Future research might consider a life-course perspective on occupational balance and relevant health effects.

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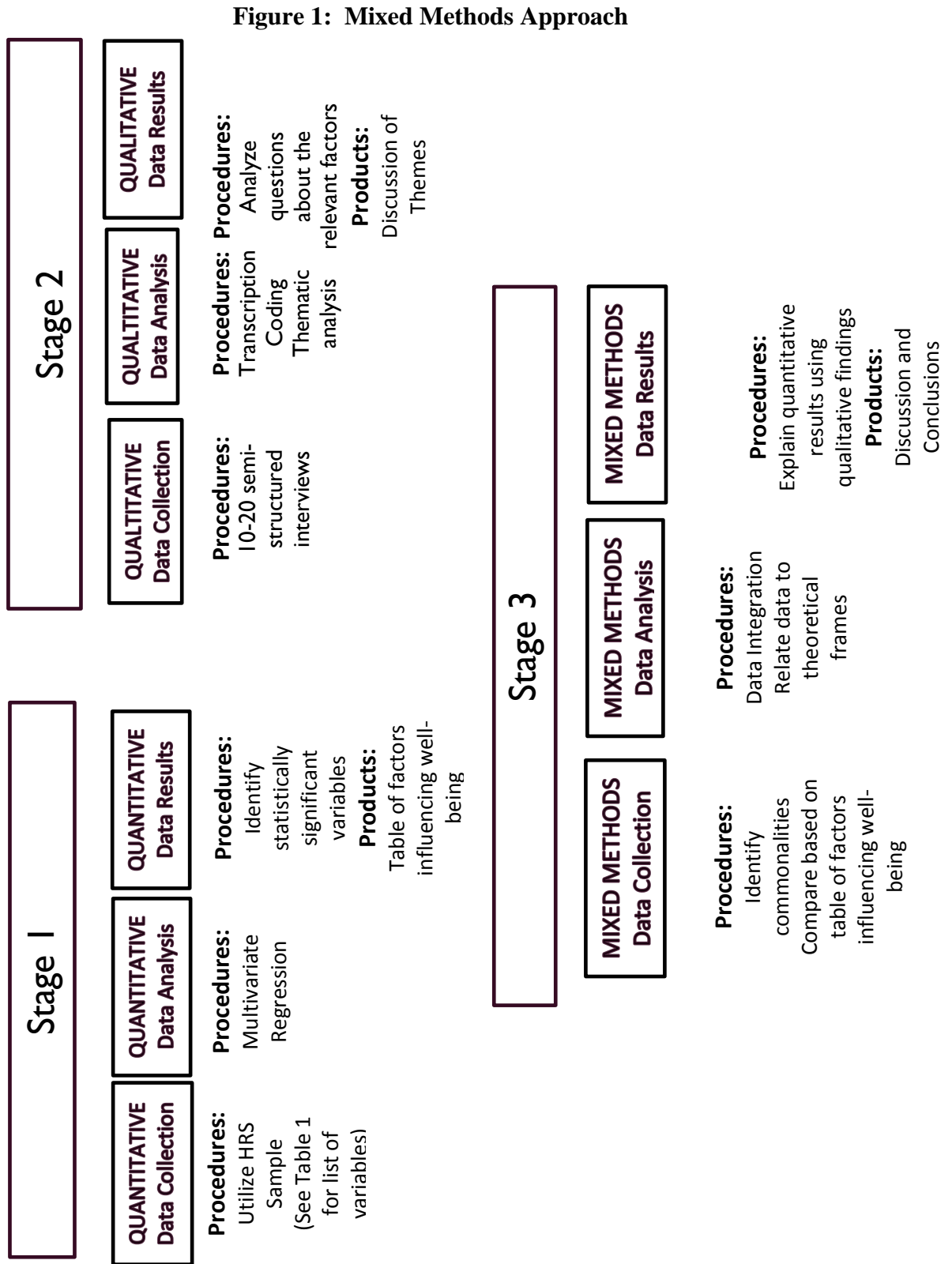


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Appendix A: IRB Approval



Office of Sponsored Programs and Research

Towson University 8000 York Road Towson, MD 21252-0001

t. 410 704-2236 f. 410 704-4494

Date: August 30th, 2017

NOTICE OF APPROVAL

TO: Maren Voss DEPT: Occupational Therapy

PROJECT TITLE: Understanding well-being among retirees experiencing late-life unemployment

SPONSORING AGENCY: N/A

APPROVAL NUMBER: 1611009482

The Institutional Review Board for the Protection of Human Participants has approved the project described above. Approval was based on the descriptive material and procedures you submitted for review. Should any changes be made in your procedures, or if you should encounter any new risks, reactions, injuries, or deaths of persons as participants, you should notify the Board.

A consent form

is required of each participant

is not

Assent ] is required of each participant is not

November 27th, 2016

This protocol was first approved on \_\_\_\_\_. This research will be reviewed every year from the date of first approval.

Elizabeth Katz, Chair Towson University Institutional Review Board, IRB



## INSTITUTIONAL REVIEW BOARD

THE UNIVERSITY OF UTAH

75 South 2000 East Salt Lake City, UT 84112 | 801.581.3655 | IRB@utah.edu

**IRB:** [IRB\\_00090049](#)

**PI:** Man Hung

**Title:** Retirement, Job Loss, Precarious Employment, and Support: Effects on Physiological and Psychological Health

**Date:** 4/11/2016

Thank you for submitting your request for approval of this study. On 4/11/2016, a designated IRB member has determined that your study is exempt from further IRB review, under **Exemption Category 2**. Note the following delineation of categories:

- Categories 1-6: Federal Exemption Categories defined in 45 CFR 46.101(b)
- Categories 7-11: Non-Federal Exemption Categories defined in University of Utah IRB policy at [http://irb.utah.edu/\\_pdf/IGS - Exempt Research 090113.pdf](http://irb.utah.edu/_pdf/IGS - Exempt Research 090113.pdf)

You must adhere to all requirements for exemption described in University of Utah IRB policy ([http://irb.utah.edu/\\_pdf/IGS - Exempt Research 090113.pdf](http://irb.utah.edu/_pdf/IGS - Exempt Research 090113.pdf)). This includes:

- All research involving human subjects must be approved or determined exempt by the IRB before the research is conducted.
- All research activities must be conducted in accordance with the Belmont Report and must adhere to principles of sound research design and ethics.
- Orderly accounting and monitoring of research activities must occur.

### Ongoing Submissions for Exempt Projects

- **Continuing Review:** Since this determination is not an approval, the study does not expire or need continuing review. This determination of exemption from continuing IRB review only applies to the research study as submitted to the IRB. You must follow the protocol as proposed in this application
- **Amendment Applications:** Substantive changes to this project require an amendment application to the IRB to secure either approval or a determination of exemption. **Investigators should contact the IRB Office if there are questions about whether an amendment consists of substantive changes.** Substantive changes include, but are not limited to
  - Changes to study personnel (to secure Conflict of Interest review for all personnel on the study)
  - Changes that increase the risk to participants or change the risk:benefit ratio of the study
  - Changes that affect a participant's willingness to participate in the study
  - Changes to study procedures or study components that are not covered by the Exemption Category determined for this study (listed above)
  - Changes to the study sponsor
  - Changes to the targeted participant population
  - Changes to the stamped consent document(s)
- **Report Forms:** Exempt studies must adhere to the University of Utah IRB reporting requirements for unanticipated problems and deviations: <http://irb.utah.edu/submit-application/forms/index.php>
- **Final Project Reports for Study Closure:** Exempt studies must be closed with the IRB once the research activities are complete: <http://irb.utah.edu/submit-application/final-project-reports.php>

## **Appendix B: Measures**

### **Satisfaction with Life Scale (SWLS)**

(Diener, Emmons, Larsen, & Griffin, 1985).

Please say how much you agree or disagree with the following statements. (Mark (X) one box for each line.) (Strongly disagree, Somewhat disagree, Slightly disagree, Neither agree nor disagree, Slightly agree, Somewhat agree, Strongly agree)

1. In most ways my life is close to ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far, I have gotten the important things I want in life.
5. If I could live my life again, I would change almost nothing.

### **Activity Scale: psychosocial questionnaire in the HRS survey**

(<http://hrsonline.isr.umich.edu/index.php>).

These first questions are about the activities in your life now. Please tell us HOW OFTEN YOU DO EACH ACTIVITY. (Mark (X) one box for each line.) (Daily, Several times a week, Once a week, Several times a month, At least once a month, Not in the last month, Never/Not Relevant)

1. Care for a sick or disabled adult?
2. Do activities with grandchildren, nieces/nephews, or neighborhood children?

3. Do volunteer work with children or young people?
4. Do any other volunteer or charity work?
5. Attend an educational or training course?
6. Go to a sport, social, or other club?
7. Attend meetings of non-religious organizations, such as political, community, or other interest groups?
8. Walk for 20 minutes or more?

**Center for Epidemiological Studies Depression scale (CES-D) (Radloff, 1977)**

Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week. 1 = Rarely or None of the Time (Less than 1 Day) 2 = Some or a Little of the Time (1-2 Days) 3 = Occasionally or a Moderate Amount of Time (3-4 Days) 4 = Most or All of the Time (5-7 Days)

1. I was bothered by things that usually don't bother me
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort
8. I felt hopeful about the future.



9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
14. I felt lonely.
15. People were unfriendly.
16. I enjoyed life
17. I had crying spells.
18. I felt sad
19. I felt that people dislike me.
20. I could not get “going”.

**Sense of Control Scale (Lachman & Weaver, 1998)**

Please say how much you agree or disagree with the following statements. Coding:

1=Strongly disagree, 2=Somewhat disagree, 3=Slightly disagree, 4=Slightly agree,  
5=Somewhat agree, 6=Strongly agree

Perceived Constraints on Personal Control Items:

1. I often feel helpless in dealing with the problems of life.
2. Other people determine most of what I can and cannot do.
3. What happens in my life is often beyond my control.
4. I have little control over the things that happen to me.

5. There is really no way I can solve the problems I have.

Perceived Mastery Items:

6. I can do just about anything I really set my mind to.
7. When I really want to do something, I usually find a way to succeed at it.
8. Whether or not I am able to get what I want is in my own hands.
9. What happens to me in the future mostly depends on me.
10. I can do the things that I want to do.

**Appendix C: Qualtrics Survey**

1. Participant ID
2. Date
3. Month of birth
4. Year of birth
5. Age
6. Sex
7. Ethnicity
8. Marital Status
9. Income
10. How many live on the income
11. Working for Pay
12. Labor Force Status
13. Hours working per week
14. Hours volunteering per week
15. Education
16. Religious attendance
17. Religious preference
18. Satisfaction with Life Scale
19. Self-reported health
20. Weight
21. Height
22. Weight change
23. Sleep
24. Exercise
25. Alcohol use
26. Cigarette smoking
27. Doctor diagnosed chronic conditions
28. Cancer screening
29. Mobility
30. CES-D
31. Spousal Support/Strain
32. Social Support
33. Spousal Communication

## Appendix D: Moderator Guide

### Participant Moderator Guide

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#### Introduction

Hello, my name is \_\_\_\_\_, and this is Participant # \_\_\_\_\_. I appreciate you taking time to talk with me today. We're interested in your thoughts and ideas regarding retirement, and your plans for retirement. We plan for this discussion to take approximately 10-15 minutes. Do you have any questions before we get started?

There are just a couple of housekeeping items I need to get out of the way first. We will be taping the discussion so that I can focus on what you are saying and not have to worry about taking notes. There is no way we can adequately listen to you and take notes at the same time. Therefore, the tapes help us when we have to go back to the office and write a report of our discussion. Try to speak as loud as me, so that the tape picks up your comments. To protect your confidentiality, I will only call you by your first name. Your name will never appear in any publication or report. The only people that will have access to the tapes will be the researchers who are working on this study.

Okay, let's begin our discussion. Are you currently working, or retired, or not working but not retired?

#### **CURRENTLY RETIRED**

##### Employment History

Q. You've indicated that you are currently retired. Tell me about your decision to retire.

**Prompt:** Tell me what motivated you most to retire.

Q. At what age did you retire?

Q. Tell me about how much control you felt you had in the decision to retire at that age.

**Prompt:** Tell me about what motivated you to retire at that age.

**Prompt:** Tell me about the circumstances of your employment that influenced your decision to retire at the age you did

**Prompt:** So would you say that your retirement was a voluntary (forced) choice?

Q. Did you experience any job loss or employment changes in the last ten years of your working life?

**If NO, proceed to next general question**

**(only if answer is YES, ask this indented question sequence)**

**Q:** Can you describe these job changes or losses, such as when they occurred and how long they lasted?

**Q:** Can you describe what kind of impact these job changes had on the timing of your retirement decisions?

**Q:** Did you change occupations following this job change event?

**Q:** Did this job change event have any lasting impact?

**Q:** How did lost work opportunities impact the way you wanted to retire? (such as healthcare, having to move, or ability to do the activities you want)?

Q. I want to understand whether your health was a factor in your retirement decisions Tell me how your plans to retire were affected by health concerns, either your own or your spouse's.

**Prompt:** How did illness and/or health insurance coverage affect your decision to retire?

Q. Think about some things related to health, like insurance coverage, ability to travel, ability to achieve your goals; Can you describe the ways your retirement has been impacted by anything related to your health?

**Prompt:** Do you or your spouse [partner] have any chronic health conditions that you would like to share with me today?

Q. What do you like best about being retired?

Q. What do you like the least about being retired?

Q. How has being retired changed (or has it?) your quality of life?

Q. Retirement sometimes leaves people with extra time on their hands. . I'm

going to read a short list of types of activities and I'd like you to tell me if it is part of your life, how often.

1. Do you engage in volunteerism or charity work?  
Prompt: What types? How many hours in an average week would you spend in this activity?
2. Do you engage in caregiver responsibilities?  
Prompt: What types? How many hours in an average week would you spend in this activity?
3. Do you engage in educational pursuits?  
Prompt: What types? How many hours in an average week would you spend in this activity?
4. Do you engage in social clubs or sports groups?  
Prompt: What types? How many hours in an average week would you spend in this activity?
5. Do you engage in religious attendance or groups?  
Prompt: What types? How many hours in an average week would you spend in this activity?
6. Do you spend time on hobbies?  
Prompt: What types? How many hours in an average week would you spend in this activity?
7. Do you engage in physical exercise?  
Prompt: What types? How many hours in an average week would you spend in this activity?

Q How did your involvement in any of these activities change when you retired?

Q. I'm going to ask a really broad question. You don't have to answer if it seems too broad. You know how when you meet someone, one of the first questions that comes up is 'What do you do?' Sometimes the jobs or activities we have done in life are a part of who we understand ourselves to be. How would you describe yourself? For example, can you use three adjectives to describe who you are and tell me why you chose those words?

Q. Is there any way in which retirement might have changed any of these things about you?

Thank you very much for your participation! Because this is a pilot study, we have a couple more questions for you:

Was there anything about this study that was particularly difficult for you?

Are there any changes or additions that you would make to these questions?

## Appendix E: Confidentiality and Professional Ethics

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### Confidentiality Summary

At Quality Outcomes Research and Assessment, we take the confidentiality of participant data very seriously. All possible measures are taken to assure PHI is kept safe and secure and all personnel are required to take data security training.

Statement of Confidentiality and Information Security

### For Quality Outcomes Research and Assessment

590 Wakara Way  
Salt Lake City, UT 84108  
(801) 587-5372

**How we collect information about you:** Quality Outcomes Research and Assessment (QORA) and its employees and volunteers collect data through a variety of means including, but not necessarily limited to, patient medical records, letters, phone calls, emails, voice mails, and from the submission of questionnaires.

**What we do not do with your information:** Information about your financial situation and medical conditions and care that you provide to us in writing, via email, on the phone (including information left on voice mails), and through questionnaires is held in strictest confidence.

We do not disseminate any information about participants that is considered patient confidential, is restricted by law, or has been specifically restricted by a patient/client in a signed HIPPA consent form.

**How we do use your information:** Information is only used for research purposes as is reasonably necessary.

**How we keep your information secure:** All information provided in writing, via email, on the phone (including information left on voice mails), and through questionnaires is transcribed and uploaded to the research server that is kept secured and password protected. Only those with the appropriate clearance who have completed all pertinent trainings are allowed access to server files. All physical copies of patient information are kept in locked files with access restricted to the Principal Investigator, IRB approved members of the research team, and University of Utah Institutional Review Board (IRB) reviewers who oversee research involving people to make sure the study protects your rights.

**Appendix F: Curriculum Vita**

Maren Wright Voss  
Curriculum Vitae

**EDUCATIONAL EXPERIENCE**

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**Doctor of Science**, Occupational Science, Towson University **2012-2017**

**Doctoral Dissertation Topic:** The role of occupational engagement during late-life retirement transitions, effects of job instability on mental and physical health.

**Internship: American Occupational** **2013-2015**

Developed policy and programming initiatives for research funding, St. Catherine Challenge

Worked in the Wilma West archives and research library

Supported development of volunteer organization, Leaders & Legacies Society

**GPA:** 3.94

**Doctor of Philosophy**, Rehabilitation Science, University of Utah **2015-Present**

**Doctoral Dissertation Topic:** Occupational opportunity as a predictor of retirement health outcomes.

**Research Assistantship: Quality Outcomes Research and Assessment Center**

RO1 funded research assistant for patient reported outcomes evaluation

Psychometric evaluation with Rasch Analysis

Focus on quantitative assessment of program and treatment evaluation

**GPA:** 3.92

**Master of Arts**, Journalism, University of Maryland **2008-2009**

**Award:** Philip Merrill College of Journalism Fellowship, 2 years full-tuition scholarship, academic merit based.

**Award:** Merck Science Journalism Award

**Award:** Addictions Studies Program for Journalists, 2009 student invitation, sponsored by Wake Forest University School of Medicine Department of Physiology.

**GPA:** 3.80

**Master of Science**, Clinical Psychology, University of Texas Southwestern **1995-1997**

**Thesis Topic:** Mathematical learning disabilities; differential outcomes.

**Practicum:** Occupational readiness program training, Allied Health Sciences Rehabilitation Clinic, 1996-1997.

**Practicum:** Neurocognitive abilities in the well-elderly, 1996.

**GPA:** 3.91

**Bachelor of Science**, Brigham Young University, Provo, UT **1989-1991**

**Major:** Psychology

**Minor:** English

**Awards:** Graduated magna cum laude

**GPA:** 3.92



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**PEER-REVIEWED PUBLICATIONS**


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1. **Voss MW**, Chen J (2015). Health status after job loss; does the reason for job change matter? *J Occup Environ Med.* 57(12), 1319-1324.
2. **Voss MW**, Birmingham WC, Wadsworth L, Bounsanga J, Chen W, Gu Y, Hung M (2017). Honest Labour Bears a Lovely Face: Will late life unemployment impact health and satisfaction in retirement? *J Occup Environ Med.*
3. **Hung M**, Zhang W, Chen W, Bounsanga J, Cheng C, Franklin JD, Crum AB, **Voss MW**, Hon SD (2015). Patient-reported outcomes and total health care expenditure in prediction of patient satisfaction: Results from a national study. *JMIR Public Health Surveill*, 1(2):e13. PMID: 27227131
4. Hung M, Crum AB, Bounsanga J, **Voss MW**, Chen W, Birmingham WC (2015). Prevalence of depressive symptoms in the older population. *Geriatric Mental Health Care*, 3(3), 29-35.
5. Beckmann JT, Hung M, **Voss MW**, Crum AB, Bounsanga J, Tyser AR (2016). Evaluation of the Patient-Reported Outcomes Measurement Information System Upper Extremity Computer Adaptive Test. *The Journal of Hand Surgery*. PMID: 27263986
6. Hung M, Bounsanga J, Crum AB, **Voss MW** (2016). Will Regional Differences in Family Practice Procedures Impact Reimbursement Rates? A national study of Medicare Part B. *The American Journal of Accountable Care*, 23-29.
7. Crum AB, **Voss MW**, Bounsanga J, Hung M (2016). Are illicit drug users more likely than non-users to receive mental health treatment? *Drugs: Education, Prevention & Policy*.  
To link to this article: <http://dx.doi.org/10.1080/09687637.2016.1209645>
8. Bounsanga J., **Voss MW**, Crum AB, Hung M (2016). Association between perceived health status and health information communication channels. *J Health Commun*, 21(11), 1148-1152.  
To link to this article: <http://dx.doi.org/10.1080/10810730.2016.1231726>
9. Hung M, **Voss MW**, Bounsanga J, Crum AB, Tyser AR (2016). Examination of the PROMIS Upper Extremity Item Bank. *J Hand Ther.*
10. Hung M, **Voss MW**, Hansen AR, Gu Y, Nielson D, Bounsanga J (2016). Undergraduate student enrollment profiles in top-ranking US colleges. *Journal for Educational Research Online*.
11. Hung M, Bounsanga J, **Voss MW**, Crum AB, Chen W, Birmingham WC (2017). The relationship between family support; pain and depression in elderly with arthritis. *Psychology, Health & Medicine*, 22(1), 75-86. PMID: 27427504  
To link to this article: <http://dx.doi.org/10.1080/13548506.2016.1211293>
12. Brodke, D.S., Goz, V., **Voss, M.W.**, Lawrence, B.D., Spiker, W.R., Hung, M. (2017). Promis PF CAT outperforms the ODI and SF-36 physical function domain in spine patients. *Spine*.

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**RESEARCH EXPERIENCE**


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**Research Assistant to Dr. Man Hung**

University of Utah, Department of Orthopaedics, Salt Lake City

2015-Present

As an assistant in an R01 funded research lab I have contributed to studies on patient reported outcomes and psycho-behavioral assessments. The research involves analysis of large national databases as well as research collected at the local level with IRB approval from patients visiting an orthopaedic facility.

**Principle Investigator, Research Practicum**  
**University of Maryland School of Public Health, College Park** **2014-2015**

Study of the health of effects of unemployment using MEPS national survey data with STATA analysis software. Consolidated and jobs file data from 2008-2012 were linked and merged to investigate links between health and employment reporting. Results documented a connection between the reason a person leaves paid employment and subsequent health. Currently in publication.

**Principle Investigator, Thesis Research**  
**University of Texas Southwestern Medical School, at Dallas** **1996-1997**

Study of the differential outcomes in learning disability diagnosis based on mathematical sub-sections of intelligence testing. Results indicated that mathematical learning disabilities were underdiagnosed in comparison to verbal learning disabilities.

**Research Assistant**  
**University of Texas Southwestern Medical School, at Dallas** **1996-1996**

The study examined cognitive function of the well-elderly. Served as a research assistant in a neurological lab and acted as primary clinical on-site administrator of neuro-cognitive and neuro-rehabilitative tests.

## **GRANTS**

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**National Institutes of Health Grant U01AR067138 Hung (PI)**  
**2015-Present**

National Institute of Arthritis and Musculoskeletal and Skin Diseases  
*Beyond the legacy scales: PROMIS instruments and Computer Adaptive Testing in musculoskeletal health outcomes measurement*  
 Role: Key Personnel

**Gerontology Research Grant Award Birmingham (PI)**  
**2016-Present**

*Retirement, Job Loss, Precarious Employment and Support: Effects on physiological and psychological health.*  
 Investigating the psychosocial mediating factors influencing retirement related health changes relative to recent employment experiences.  
 Role: Key Personnel

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### CONFERENCE PRESENTATIONS

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1. Brodke, D.S., Goz, V., **Voss, M.W.**, Lawrence, B.D., Spiker, W.R., Hung, M. (2017). PROMIS PF CAT outperforms the ODI and SF-36 physical function domain in spine patients. *Spine*.
2. **Voss, M.** & Chen, J (2015). "Health status after unemployment: does the reason for leaving work matter?" Presented at the Society for the Study of Occupation: USA, October 3, 2015, Ft. Lauderdale, FL.
3. **Voss, M.W.**, Birmingham, W.C., Bounsanga, J., Crum, A.B., Chen, W., Hung, M. (2016). Assessment of marital quality and health in the aging population. Presented at the Society of Behavioral Medicine annual meeting, Washington DC: March, 2016.
4. **Voss, M.W.**, Birmingham, W.C., Bounsanga, J., Crum, A.B., Chen, W., Hung, M. (2016). Effects of marital support and strain on health outcomes. Presented at the American Psychosomatic Society annual meeting, Denver, CO: March, 2016.
5. **Voss, M.W.**, Hung, M., Wadsworth, L., Chen, W., Birmingham, W. (2016). Late life unemployment and life satisfaction. Presentation at the Society for the Study of Occupation: USA, Portland, ME: September, 2016.
6. **Voss, M.W.**, Gu, Y., Bounsanga, J., Hung, M. (2017). Examination of achievement gaps between White and African American students across the United States. Presentation at the Rocky Mountain Psychological Association's annual meeting, UT: Salt Lake City, April 6 - 8, 2017. **Student Presentation Award Winner.**
7. Bounsanga, J., Hung, M., **Voss, M.W.**, Crum, A.B., Chen, W., Birmingham, W.C. (2016). The influence of social support on health outcomes in the older population. Presentation at the Utah Conference for Undergraduate Research, Salt Lake City, UT: February, 2016.
8. Sgro, J., Birmingham, W.C., **Voss, M.W.**, Bounsanga, J., Hung, M. (2016). Effects of frequent marital communication and decision-making on psychological outcomes: A study of older adults. Presentation at the Utah Conference for Undergraduate Research, Salt Lake City, UT: February, 2016.
9. Bounsanga, J., **Voss, M.W.**, Crum, A.B., Hung, M. (2016). Medicare Part B utilization and payment: A national study of family practice providers. Presentation at the Utah Conference for Undergraduate Research, Salt Lake City, UT: February, 2016.
10. Crum, A.B., Hung, M., Bounsanga, J., **Voss, M.W.**, Chen, W., Birmingham, W.C. (2016). Trends of depression across regions in the United States. Salt Lake City, UT: February, 2016: Presentation at the Utah Conference for Undergraduate Research.
11. Bounsanga, J., **Voss, M.W.**, Crum, A.B., Chen, W., Birmingham, W.C., Hung, M. (2016). The impact of family support and relationships in healthy aging. Presented at the American Psychosomatic Society annual meeting, Denver, CO: March, 2016.
12. Sgro, J, Birmingham, W.C., **Voss, M.W.**, Bounsanga, J., Hung, M. (2016). Effects of frequent marital communication and decision-making on psychological outcomes. Presented at the Society of Behavioral Medicine annual meeting, Washington DC: March, 2016.
13. Crum, A.B., Bounsanga, J., **Voss, M.W.**, Chen, W., Birmingham, W.C., Hung, M. (2016). Prevalence of depressive symptoms in an older population by geographical region. Presented at the American Psychosomatic Society annual meeting, Denver, CO: March, 2016.
14. Bounsanga, J., **Voss, M.W.**, Crum, A.B., Chen, W., Birmingham, W.C., Hung, M. (2016). Exploring family support in elderly with arthritis pain and depression. Presented at the Society of Behavioral Medicine annual meeting, Washington DC: March, 2016.
15. Crum, A.B., Bounsanga, J., **Voss, M.W.**, Chen, W., Birmingham, W.C., Hung, M. (2016). Prevalence of depressive symptoms in an older population by geographical region. Presented at the Society of Behavioral Medicine annual meeting, Washington DC: March, 2016.

16. Sgro, J., Birmingham, W.C., **Voss, M.W.**, Bounsanga, J., Hung, M. (2016). Effects of frequent marital communication and decision-making on psychological outcomes: A study of older adults. Presented at the American Psychosomatic Society annual meeting, Denver, CO: March, 2016.
17. Crum, A.B., **Voss, M.W.**, Bounsanga, J., Hung, M. (2016). Are mental health treatments more likely to be utilized by illicit drug users? Presentation at the Undergraduate Research Symposium, Salt Lake City, UT: April 2016.
18. Bounsanga, J., Crum, A.B., **Voss, M.W.**, Hung, M. (2016). Information engagement and health outcomes. Presentation at the Undergraduate Research Symposium, Salt Lake City, UT: April, 2016.
19. Hung, M., Hon, E., Bounsanga, J., **Voss, M.W.**, Greene, T., Saltzman, C.L. (2016). Linking between PROMIS and Legacy instruments: GRM versus Rasch PCM. Presentation at the International Meeting of the Psychometric Society, Asheville, NC: July 11 - July 15.
20. Hung, M., Bounsanga, J., Liu, F., **Voss, M.W.**, Saltzman, C.L., Greene, T., Tyser, A.R. (2016). The PROMIS Physical Function Scale in Upper Extremity. Presentation at the Joint Statistical Meeting, Chicago, IL: August 2016.
21. Trujillo, C., Butterfield, R., Hung, M., Dixon, M., Bounsanga, J., **Voss, M.W.**, Johnson, N. (2016). Knowledge Gaps in Adults with Myotonic Dystrophy Type 1. Presentation at the Myotonic Dystrophy Foundation Annual Meeting, Washington DC: September, 2016.
22. Wagner, W.L., Kendall, R., Hung, M., Brodke, D., Bounsanga, J., **Voss, M.W.**, Spiker, W., Lawrence B (2017). The relationship of PROMIS Pain Interference and PROMIS Physical Function scales in patients with spine disorders. Presentation at the AAP Annual Conference, NV: Las Vegas, February 7 - 11, 2017.
23. Hung, M., Greene, T., Baumhauer, J., Bounsanga, J., **Voss, M.W.**, Gu, Y., Saltzman, C.L. (2017). PROMIS Instrument Responsiveness in Patients with Foot and Ankle Disorders. Presentation at the ORS 2017 Annual Meeting, CA: San Diego, March 19 - 23, 2017.
24. Hung, M., Brodke, D., Saltzman, C.L., Greene, T., **Voss, M.W.**, Bounsanga, J., Gu, Y., Wagner, B., Spiker, R., Lawrence, B., Kendall, R. (2017). Psychometrics of the PROMIS Pain Interference Instrument in an Orthopaedic Population. Presentation at the ORS 2017 Annual Meeting, CA: San Diego, March 19 - 23, 2017.
25. Hung, M., Smith, W.A., **Voss, M.W.**, Franklin, J.D., Gu, Y., Bounsanga, J. (2017). Exploring student achievement gaps in school districts across America. Presentation at the 2017 AERA Annual Meeting, TX: San Antonio, March 27 - April 1, 2017.
26. Hung, M., Bounsanga, J., Tyser, A.R., Greene, T., Gu, Y., **Voss, M.W.**, Birmingham, W.C., Saltzman, C.L. (2017). PROMIS Measures for Patient Centered Care. Presentation at the Annual Meeting of the Society of Behavioral Medicine, CA: San Diego, March 29 - April 1, 2017.
27. Birmingham, W.C., Wadsworth, L., Kaseda, E., **Voss, M.W.**, Bounsanga, J., Hung, M. (2017). Spousal Retirement Communication and Decision-Making on Relationship Quality and Self-Reported Health in Older Adults. Presentation at the annual conference for the Society of Behavioral Medicine, San Diego, CA: March 29 - April 1, 2017.
28. Hung, M., **Voss, M.W.**, Gu, Y., Bounsanga, J., Greene, T., Birmingham, W.C., Saltzman, C.L. (2017). Responsiveness of the PROMIS Instruments for Pain and Function. Presentation at the Annual Meeting of the Society of Behavioral Medicine, CA: San Diego, March 29 - April 1, 2017.
29. Hall, K., Kaseda, E., Graff, T.C., Subiantora, T., **Voss, M.W.**, Bounsanga, J., Wadsworth, L., Hung, M., Birmingham, W.C. (2017). Senior Olympians: Models of Successful Aging. Presentation at the Rocky Mountain Psychological Association's annual meeting, UT: Salt Lake City, April 6 - 8, 2017.

30. Hung, M., Bounsanga, J., Liu, F., **Voss, M.W.** (2017). Profiling arthritis pain using machine learning. Presentation at the Rocky Mountain Psychological Association's annual meeting, UT: Salt Lake City, April 6 - 8, 2017.
31. Hung, M., Gu, Y., Bounsanga, J., **Voss, M.W.**, Greene, T., Saltzman, C.L. (2017). Exploring the Measurement Properties of the PROMIS Pain Interference Scale. Presentation at the Rocky Mountain Psychological Association's annual meeting, UT: Salt Lake City, April 6 - 8, 2017.
32. Hung, M., Bounsanga, J., **Voss, M.W.**, Gu, Y., Greene, T., Saltzman, C.L. (2017). Assessing the utility of the Patient-Reported Outcomes Measurement Information Systems instruments longitudinally. Presentation at the Rocky Mountain Psychological Association's annual meeting, UT: Salt Lake City, April 6 - 8, 2017.
33. Hung, M., Saltzman, C.L., Greene, T., **Voss, M.W.**, Bounsanga, J., Gu, Y., Nielson, D., Wang, A.A., Hutchinson, D.T., Coleman, D., Tyser, A.R. (2017). Responsiveness of the PROMIS and Legacy Instruments for Upper Extremity Conditions. Presentation at the ORS 2017 Annual Meeting, CA: San Diego, March 19 - 23, 2017.
34. Hung, M., Nielson, D., Bounsanga, J., Hansen, A., **Voss, M.W.** (2017). The PROMIS Physical Function: A review of development, usage and collaboration 2006-2017. Presentation at the Promis Health Organization Conference, Philadelphia, PA: October, 2017.
35. Hung, M., Hon, S., Gu, Y., Bounsanga, J., Hon, E., Hansen, A., Nielson, D., **Voss, M.W.** (2017). Development of predictive models for personalized, precision medicine in colorectal cancer using machine learning. Presentation at the International Society for Quality of Life Research Conference, Philadelphia, PA: October, 2017.
36. Hung, M., Bounsanga, J., Greene, T., **Voss, M.W.**, Gu, Y., Saltzman, C. (2017). Psychometrics and Crosswalks of the PROMIS measures. Presentation at the International Society for Quality of Life Research Conference, Philadelphia, PA: October, 2017.
37. Bounsanga, J., **Voss, M.W.**, Gu, Y., Hung, M. (2017). Health Outcomes in the Era of Technology. Presentation at the International Society for Quality of Life Research Conference, Philadelphia, PA: October, 2017.
38. Hung, M., Gu, Y., Saltzman, C., Greene, T., **Voss, M.W.**, Bounsanga, J., Tyser, A. (2017). Utility of the PROMIS Instruments in Orthopaedics. Presentation at the International Society for Quality of Life Research Conference, Philadelphia, PA: October, 2017.
39. Hung, M., Nielson, D., Hansen, A., **Voss, M.W.**, Gu, Y., Bounsanga, J. (2017). Bundle payment in health services delivery. Presentation at the International Society for Quality of Life Research Conference, Philadelphia, PA: October, 2017.
40. Nielson, D., Gu, Y., Bounsanga, J., **Voss, M.W.**, Hansen, A., Hung, M. (2017). Predictive staging of breast cancer using lymph node ratio. Presentation at the International Society for Quality of Life Research Conference, Philadelphia, PA: October, 2017.
41. Hansen, A., **Voss, M.W.**, Bounsanga, J., Gu, Y., Nielson, D., Hung, M. (2017). Brachytherapy versus External Beam Radiation Treatment with Early Stage Breast Cancer: Impact on Quality of Life. Presentation at the International Society for Quality of Life Research Conference, Philadelphia, PA: October, 2017.
42. **Voss, M.W.**, Wadsworth, L., Birmingham, W., Gu, Y., Bounsanga, J., Hung, M. (2017). The Role of Late-Life Unemployment on Retirement Health. Presentation at the International Society for Quality of Life Research Conference, Philadelphia, PA: October, 2017.

