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The Impact Of Age On Workplace Motivation: A Person-Centered Perspective

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**THE IMPACT OF AGE ON WORKPLACE MOTIVATION: A PERSON-CENTERED
PERSPECTIVE**

by

KEITH ZABEL

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

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MAJOR: PSYCHOLOGY
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Approved by:

Advisor

Date

DEDICATION

I dedicate this to my wife Lauren, who has and will continue to motivate me across the lifespan. Her love, encouragement and support motivated me to prioritize completing the dissertation. I also dedicate the dissertation to my twin brother Kevin, who is constantly a great inspiration and role model. I also dedicate this to my sister Nicole, whose love and support is constant, and to my parents, whose hard work, love and sacrifice has given me this opportunity. In addition, my grandparents RuthAnn, Chuck, and Donna have been a great source of encouragement and love throughout this process and my life. I also dedicate this to Bev, Nate, and Elise. I'm proud to hopefully become the third doctor in the family (although don't look to me to save anyone's life).

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CHAPTER 1: INTRODUCTION

The U.S. workforce has been aging since the turn of the 20th century (Bureau of Labor Statistics, 2010), driven by a variety of factors, including declining fertility rates, an increase in life expectancy, and the aging of the large Baby Boomer generation (e.g., Cennamo & Gardner, 2008). The aging of the workforce places pressure on retirement systems, causing many countries to continually increase their state-funded retirement eligibility age (e.g., China; Wong, 2015). The ripple effect of increasing retirement ages and life expectancies are that individuals are expected and continue to delay retirement and stay in the workforce at later ages. Given the number of older workers in the U.S. will only continue to rise until at least 2050 (Bureau of Labor Statistics, 2010), it is vitally important that organizations understand how to motivate workers across the lifespan, with an ever-increasing emphasis on older workers.

Organizations small and large understand the importance of motivating workers across the lifespan, and workplace motivation is a key component of many talent management systems including succession planning (e.g., Crumpacker & Crumpacker, 2007), career development programs (e.g., Dik, Sargent, & Steger, 2008), flexible work arrangements (e.g., Thompson & Prottas, 2006), and employee engagement (e.g., Meyer & Gagne, 2008). As one example, the process of succession planning typically creates a plan for filling high-level positions in the future, using previous job performance, age, years of service, experience, and promotion needs as typical proxy variables to create the plan. Career development initiatives within organizations typically focus on developing employees with low chronological ages and low organizational/job tenure (e.g., Pitt-Catsouphes et al., 2009), capitalizing on the growth needs that are presumed to be higher in younger workers relative to older workers. On the other hand, flexible work schedules such as telecommuting or flextime show the most benefit for workers with young

children (e.g., Allen & Finkelstein, 2014; Baltes et al., 1999). Recent research suggests that older workers may also benefit from using flexible work arrangements (Pitt-Catsouphes et al., 2009), given flexible work solutions capitalize upon autonomy needs to motivate employees. Even though these types of talent management initiatives utilize definitions of age to form their strategy, nearly all investigations of the relationship between age and work motives have conceptualized age using chronological age (see Kooij et al., 2008; Kooij et al., 2011 for reviews). In addition, nearly all studies have examined the relationship between age and workplace motives using the variable-centered approach as opposed to person-centered approach. Previous research has examined the correlation between age and workplace motives, ignoring the extent to which different conceptualization age interact to create age profiles. In this context, an age profile refers to a group of individuals who are similar to each other on many of the different types of conceptualizations of age (e.g., chronological age, job tenure), but tend to have different levels of conceptualizations of age (e.g., chronological age, job tenure) relative to individuals that belong to other age profiles. Indeed, it is very likely that different age profiles exist which cause individuals to be motivated at work for different reasons.

It is vital to understand the relationship between age profiles and motivation in order for organizations to fully leverage their talent management strategies that depend upon age as major factors. In addition, major meta-analyses have lamented at the over-reliance on chronological age and correlational designs in previous studies of the relationship between age and workplace motives (Kooij et al., 2011), limitations this dissertation aims to address. In sum, this dissertation aims to bridge a gap in the literature by assessing each of the conceptualizations of age described by Kooij et al., 2008, identifying age profiles or clusters in the sample, and linking age profiles to motivation.

In the next section, I begin with a general overview of workplace motivation, focusing on three major types of workplace motives including growth, social, and security motives. Next, I introduce four conceptualizations of age other than chronological age and describe how each conceptualization has typically been measured and the overlap between the different conceptualizations. Subsequently, I explain the overlap between age and workplace motives and two theories (socioemotional selectivity theory; SEST, selection, optimization, and compensation; SOC) that be used to explain the overlap. To conclude the literature review, I discuss the person-centered approach utilized to test the hypotheses.

CHAPTER 2: LITERATURE REVIEW

Workplace Motivation

Workplace motives have been studied in the organizational psychology literature since the formation of the field. Generally, motivation has been defined as the forces that initiate, direct, and persist human behavior (Locke, 1991). In an oft-cited article that provides a foundation to understand the connection points of different motivation theories, Locke (1991) provided a framework that posited that the major motivational theories fall into one of seven areas, including needs (e.g., Maslow, 1943), values and motives (e.g., McClelland, 1961), goal setting (e.g., Locke & Latham, 1990), self-efficacy (e.g., Bandura, 1986), performance (e.g., Weiner, 1986), rewards (e.g., Adams, 1965), and satisfaction (e.g., Herzberg, 1966). According to Locke (1991), values represent the “motivation core” (p. 297). Indeed, Locke (1991) argues that what an individual values guides their choices and actions by influencing what is rewarding to them. For example, an employee who does not value moving up in an organization will likely not value a promotion or international service assignment relative to an individual who has the strong desire to grow in their career. Given the importance of values in the motivation sequence, we define motivation using McClelland’s needs (e.g., need for achievement, 1961) as well as other values (e.g., promotion) included in Kooij et al.’s (2008, 2011) meta-analyses on the relationship between age and work motives.

Recent research examining the relationship between age and work motives (Kooij et al., 2011; Rudolph et al., 2013) have identified three classes of motives, including growth, social, and security. Growth motives refer to motives that are related to individual-level higher level of functioning (Kooij et al., 2011). Common growth motives include development/challenge motives and growth need strength (Kooij et al., 2011). In addition to growth motives, individuals

are motivated in the workplace through the social interactions and collaborations they have with coworkers. Common social motives include need for affiliation and helping people/contributing to society (Kooij et al., 2011). Security motives are the extent to which individuals desire work conditions that satisfy their overall welfare in the workplace (Kooij et al., 2011). Common security motives include job security, compensation/benefit needs, need for achievement, and need for autonomy (Kooij et al., 2011). In addition to being the typical classes of workplace motives studied with age, organizations leverage these motives as part of their talent management strategies. For example, career development initiatives utilize growth motives, team building interventions and employee resource groups fulfill social motives, and flexible work arrangements fulfill security motives. Nearly all studies that have examined the relationship between these types of motives and age have conceptualized age as one's age in calendar years (chronological age), ignoring the fact that several other conceptualizations of age exist.

Conceptualizations of Age

Even though chronological age is the most often used conceptualization of age, at least four different conceptualizations of age exist (Kooij et al., 2008), including subjective or psychosocial age (referred to as subjective age throughout this dissertation), functional or performance-based age (referred to as functional age or health throughout this dissertation), organizational age, and the life-span concept of age (Kooij et al., 2011). Functional age refers to changes in performance that occur as individuals' age, both biologically and psychologically. Subjective age, first studied in the 1950s (e.g., Blau, 1956; Tuckman & Lavell, 1957), refers to the age one feels, looks, acts, and the age that generally reflects their interests. Organizational age typically is measured by job tenure, organizational tenure, or career stage, and reflects one's

age in terms of their job or organization. The life-span concept of age borrows from the above definitions of age, and is often measured by life status, family status, or number of dependents.

Research indicates that although there are strong correlations between some of the different conceptualizations of age, other conceptualizations of age can add unique variance over and above chronological age in predicting workplace attitudes. For example, Cleveland and Shore (1992) found that perceived relative age (as measured a proxy for organizational age) added unique variance, over and above chronological age in predicting perceived organizational support. However, this variable did not account for variance over and above chronological age in predicting organizational commitment or performance (Cleveland & Shore, 1992).

Previous research also suggests there is utility in treating the different age conceptualizations as interactive as opposed to additive in the prediction of workplace attitudes. For example, Cleveland and Shore (1992) found that interactions of age conceptualizations accounted for unique variance over and above that of the main effects of age in the prediction of four workplace attitudes, including organizational commitment, job involvement, perceived organizational support, and job satisfaction. Interpreting the interactions, results suggested employees who rated themselves as older in subjective age and older in relative age to coworkers had the highest levels of positive workplace attitudes (e.g., organizational commitment), whereas those who rated themselves as younger in subjective age but older in relative age to coworkers had the lowest levels of positive workplace attitudes. In the next sections, I describe each conceptualization of age in greater detail.

Subjective Age. Numerous definitions and conceptualizations of subjective age have existed. Although there are differences in the methodology of self-report scales to measure subjective age, there is a general agreement that four components of subjective age exist,

including the age one feels, looks, acts, and whose general interests their age reflects (Barak, 1987; Goldsmith & Heiens, 1992; Stephan, Caudroit, & Chalabaev, 2011). This conceptualization of subjective age has also been referred to as cognitive age in previous studies (e.g., Kaliterna et al., 2002).

Most research has found that across the lifespan, individuals tend to report a younger subjective age than their chronological age (e.g., Borzumato-Gainey et al., 2009; Mock & Eibach, 2011), a phenomenon referred to in the literature as subjective age bias (Teuscher, 2009). While some studies have found the discrepancy between chronological age and subjective age increases as individuals age chronologically (e.g., Borzumato-Gainey et al., 2009; Galambos, Turner, & Tilton-Weaver, 2005), others have found that discrepancy stops increasing around age 40, at which point individuals continue to feel about 20% younger than their chronological age across the lifespan (e.g., Rubin & Bernsten, 2006). Rubin and Bernsten (2006) also found that age 25 was the age at which individuals went from feeling older than their chronological age to feeling younger than their chronological age. Younger subjective age has been associated with a number of positive effects, including increased life satisfaction (e.g., Borzumato-Gainey et al., 2009; Mock & Eibach, 2011; Stephan, Caudroit, & Chalabaev, 2011), self-esteem (e.g., Borzumato-Gainey et al., 2009), job satisfaction (e.g., Rioux & Mokouncolo, 2013), memory self-efficacy (e.g., Stephan, Caudroit, & Chalabaev, 2011), and decreased negative affect (e.g., Mock & Eibach, 2011).

Generally, there are three major ways in which subjective age has been measured. One research stream has measured subjective age using the Subjective Aging Questionnaire (SAQ; Barak, 1987). The SAQ consists of four questions that ask participants the age they feel, look, the age which reflects their interests, and the age which reflects their activities, using a response

range including 20s, 30s, 40s, 50s, 60s, 70s, and 80s (Barak, 1987). The average (using the midpoint of each response option) of the four responses forms an individual's subjective age. The SAQ has been administered in the same format in a number of studies (e.g., Barak, 1987; Borzumato-Gainey, Kennedy, McCabe, & Degges-White, 2009; Degges-White & Myers, 2006; Goldsmith & Heiens, 1992; Henderson, Goldsmith, & Flynn, 1995). Although advantageous because of its ease and widespread use, the SAQ suffers from a lack of precision since using the average of the midpoints circled by participants brings in unnecessary error into the calculation of subjective age.

A second major research stream has defined subjective age as the age in years individuals self-report feeling, looking, reflecting their interests, and reflecting their activities (e.g., Barrett, 2003). In many studies that use this approach, chronological age is subtracted from subjective age to form one's subjective age score (also referred to as age identity, Barrett, 2003; Mock & Eibach, 2011; Stephan, Demulier, & Terracciano, 2012), with negative scores indicating more youthful subjective age. A major advantage of this methodology is that it introduces no error into the calculation of subjective age, as the aforementioned method does. A second advantage of this approach is much of the research on subjective age (that was outlined in the following pages) uses the aforementioned difference score to show how youthful subjective age has been correlated to a number of positive outcomes (e.g., longer life, better health outcomes).

A third and final research stream has utilized a 1 (*a lot younger than my age*) to 7 (*a lot older than my age*) response range to have participants answer the extent to which they felt, look, had interests, and had activities that were older than their chronological age (e.g., Galambos, Turner, & Tilton-Weaver, 2005; Montepare, Rierdan, Koff, & Stubs, 1989). The average of the four items reflects one's subjective age. One advantage to this approach is that because it asks

individuals to rate how they feel, look, activities, and interests *relative* to chronological age, the scale items control for chronological age, making any subtractions of chronological age from subjective age unnecessary (Hubley & Russell, 2009). This same methodology has been used in a number of other studies (e.g., Hubley & Russell, 2009; Montepare, 1991; Steitz & McClary, 1988; Teuscher, 2009).

Given its widespread use, this dissertation utilized Approach 3 to measure subjective age. Specifically, I created a composite subjective age score for participants based upon their responses to the four Likert scale items. Approach 1 was not used because of the amount of error it introduces into the calculation of subjective age. Approach 2 was also utilized in this dissertation for two reasons, 1) to screen for outliers and 2) conduct ad hoc analyses to determine how results change using Approach 2 compared to Approach 3. Specifically, individuals self-reported their chronological age and subjective age, and the difference score (subjective age – chronological age) was used to calculate one's subjective age score (also called age identity and subjective age discrepancy score; Kaliterna et al., 2002).

Functional Age. Functional age refers to the changes in an individual's performance with age that is associated with psychological and biological changes (Kooij et al., 2008). According to Kooij et al, 2008, functional age is best-measured using changes in cognitive ability, physical ability and health. Much research has examined the impact of functional age on a variety of outcomes. For example, a review article on functional age (Anstey, Lord, & Smith, 1996) described how indicators of strength and visual acuity have been related to increased number of hours driving (Retchin, Cox, Fox, & Irwin, 1988) and decreased number of falls (Lord, Clark, & Webster, 1991) in older populations. In addition, research has found that excellent health is positively related to motivation and self-determined extrinsic motivation

(Vallerand, O'Connor, & Hamel, 1995). In addition, better health status has been related to decreased likelihood to retire (e.g., Anderson & Burkhauser, 1985; Lund & Borg, 1999). Another study found poor general health and a married marital status led to increased retirement rates (Hayward et al., 1989). These studies suggest that poor health can be an important factor in individual's decision to leave the workforce.

Functional age has often been examined in conjunction with subjective age, with results suggesting that younger subjective age is consistently associated with better health outcomes (e.g., Infurna et al., 2010; Stephan, Caudroit, & Chalabaev, 2011). While Hubley and Russell (2009) found that subjective age was negatively related to all types of health variables studied, the strongest negative relationship was between subjective age and general health, vitality, health satisfaction, and physical function (all *rs* stronger than $r = -.45$). Hubley and Russell (2009) also found that desired age was unrelated to health outcomes, but that small positive relationships existed between age satisfaction and the nine health outcomes (mean $r = .31$).

In addition to Hubley and Russell's (2009) work, Stephan et al. (2012) examined how chronological age and health outcomes interact to predict subjective age. Results suggested that higher self-rated health was related to a younger subjective age among middle-aged adults and older adults, whereas no significant relationship was found for younger individuals. These findings suggest the importance of one's health perceptions play a greater role in predicting feeling youthful as individuals' age. In a similar study that examined how conceptualizations of age can interact, Stephan et al. (2011) found younger subjective age predicted life satisfaction as well as health status and memory self-efficacy, which is considered a proxy for measuring functional age. Their mediation model suggested health status mediated the relationship between subjective age and life satisfaction. In this dissertation, functional age was measured using one's

self-reported health status. Although it is clear that other types of functional age change as chronological age increases (e.g., cognitive ability; Avolio & Waldman, 1990), health status was measured to conceptualize functional age, given its well-supported link to chronological age and subjective age.

Organizational Age. According to Kooij et al. (2008), the organizational conceptualization of age can be measured using a variety of variables, including job tenure, organizational tenure, career stage, and skill obsolescence. A wide body of literature has examined the effect of job tenure, organizational tenure, and career stage on a variety of workplace attitudes and outcomes. For example, Cohen's (1991) meta-analysis found that the negative relationship between organizational commitment and employee turnover was stronger in the early career stage relative to other career stages, and that the correlations between organizational commitment and both job performance and absenteeism were stronger in the later career stage relative to other career stages. Career stage has also been associated with increased work ethic (e.g., Morrow & McElroy, 1987; Pogson, Cober, Doverspike, & Rogers, 2003) and job involvement (e.g., Morrow & McElroy, 1987; Ornstein et al., 1989). Thus, a plethora of research suggests that increased organizational age is associated with increased organizational commitment, security needs, and decreased turnover intentions.

Only a few known studies have examined the relationship between organizational age and workplace motives. Specifically, Adler and Aranya (1984) found that security needs increased as individuals progressed through the career stages, but that social, esteem, and autonomy needs increased from the establishment through maintenance stages, but decreased in the pre-retirement stage. Several studies have found a positive correlation between organizational tenure and intrinsic motivation (e.g., Cook & Wall, 1980; Kuvaas, 2006). Ornstein et al. (1989)

found significantly lower promotion needs at the maintenance and pre-retirement career stages relative to the trial and establishment phases.

Even though organizational age has been shown to impact important workplace attitudes and outcomes, there has been much disagreement in the literature about how to measure it – most notably around how to define the different career stages. Indeed, the difficulties associated with measuring the organizational component of age have been the focus of several articles (e.g., Cohen, 1991; Cooke, 1994; Sullivan, 1999). One popular career stage model is that of Super and colleagues (e.g., Super, 1957, Super, Thompson, & Lindeman, 1988), who describe four career stages, including exploration, establishment, maintenance, and disengagement. The exploration stage is marked by the clarification of career interests and choices on career direction. The establishment stage is characterized by the consolidation of career decisions. One continuing to stay in their career and holding onto what they have established marks the maintenance stage. The disengagement stage is characterized by a decline in energy and decreased career interest as one moved towards retirement (Super et al., 1988).

Many studies have utilized Super et al.'s (1988) framework and nomenclature, and used chronological age as a proxy variable to determine career stage. One popular categorization includes the exploration stage including those below 30 years of age, the establishment stage including those between the ages of 30 and 45 years, the maintenance stage including those 46-60 years, and the disengagement stage including those over 60 years of age (e.g., Hafer, 1986; Hall, 1976; Super & Hall, 1978). Many other studies have used the same number of career stages, but have slightly different ages associated with the career stage. For example, one conceptualization includes the trial stage including those under 30 years, establishment stage including those aged 31-35 years, the advancement stage including those aged 36-40 years, and

the maintenance stage including those 40 years and older (e.g., Cohen, 1993; Gould, 1979; Hall & Mansfield, 1975; Rush, Peacock, & Milkovich, 1980).

A second popular method of determining career stage is using job tenure (Allen & Meyer, 1993), organizational tenure (e.g., Conway, 2004), or professional tenure (e.g., McElroy et al., 1993) as a proxy variable. Job tenure typically refers to the length of time one has been in their current role or job, whereas organizational tenure typically reflects the length of time one has been employed with their current organization (Pogson et al., 2003). The most common conceptualization has three career stages, including the establishment stage (0-2 years tenure), advancement stage (2-10 years tenure), and the maintenance stage (10 or more years of tenure; e.g., Allen & Meyer, 1993; Conway, 2004; Koh, Lee, Yen, & Havelka, 2004; Lynn, Cao, & Horn, 1996; McElroy et al., 1993, Mount, 1984; Stumpf & Rabinowitz, 1981). Several other slight variations in career stage conceptualizations using tenure can be found in the literature (e.g., Burke & Mikkelsen, 2005; Cohen, 1993; Gregersen, 1993; Jans, 1989; Mehta, Anderson, & Dubinsky, 2000; Naidu & Patrick, 2011).

While the most popular methods of determining career stage assume that career stage moves in linear fashion as one ages chronologically or in tenure, a third method of determining career stage allows for individuals to “recycle” to earlier career stages, and is assessed using a survey called the Adult Career Concerns Inventory (ACCI; Super et al., 1988). This 60-item survey includes 15 questions for four career stages, including exploration (e.g., “Finding the line of work I am best suited for”), establishment (e.g., “Achieving stability in my work”), maintenance (e.g., “Developing new skills to cope with changes in my field”), and disengagement (e.g., “Having a good life in retirement”). An individual’s career stage is determined using the highest mean score for the four career stages. The main benefit of using the

ACCI to determine career stage is that it allows for individuals to “recycle” back to earlier career stages based upon their circumstances, whereas using chronological age or tenure to determine career stage assumes a linear movement through different career stages. Although the ACCI has been used in several studies to determine career stage (e.g., Halpin, Ralph, & Halpin, 1990; Hess & Jepsen, 2009; Luttman, Mittermaier, & Rebele, 2003; Ornstein, Cron, & Slocum, 1989; Smart & Peterson, 1997), it has likely been underutilized given the length of the ACCI.

In this dissertation, I assessed organizational age by measuring job tenure and organizational tenure by asking individuals to self-report the number the number of years they have been in their current job and with their current organization (Pogson et al., 2003). I created a composite organizational age variable by averaging participants’ organizational tenure and job tenure. I also performed ad hoc analyses to determine how the results using organizational age compare to results using the ACCI to measure career stage. To measure career stage to conduct ad hoc analyses, participants completed a shortened, 12-item version of the ACCI (Perrone et al., 2003), which assesses four career stages (exploration, establishment, maintenance, and disengagement), and allows for individuals to recycle back to earlier career stages.

Life-Span Concept of Age. According to Levinson’s life stage model (e.g., Levinson, 1978; Levinson, 1986), individuals progress through four major eras during the course of their lives, including preadulthood, early adulthood, middle adulthood, and late adulthood. The preadulthood era generally lasts from the ages of conception to 22 years, the early adulthood era lasts from approximately ages 17 to 45 years, the middle adulthood era lasts from 40 to 65 years, and the late adulthood era lasts from ages 60 until death (Levinson, 1978).

In addition to the eras, Levinson (1986) argues there are a set of nine specific periods that define an individual’s life, including the early adult transition (ages 17-22 years), entry life

structure for early adulthood (ages 22-28 years), the age 30 transition (ages 28-33 years), the culminating life structure for early adulthood (ages 33-40 years), the midlife transition (ages 40-45 years), the entry life structure for middle adulthood (ages 45-50 years), the age 50 transition (ages 50-55 years), the culminating life structure for middle adulthood (ages 55-60 years), and the late adulthood transition (60-65 years). According to Levinson, the age range associated with the different periods tends to be consistent between individuals, plus or minus two years.

Although Levinson's conceptualization of life stages has been used in numerous studies (e.g., Ornstein, Cron, & Slocum, 1989; Ornstein & Isabella, 1990), its conceptualization fails to take into account the importance of family status in determining life stages, an approach taken in several articles and reviews on life stage theory (e.g., Baltes & Young, 2007). Using the categorization first proposed by Duvall and Hill (1948), Baltes and Young (2007) describe eight life stages of human development, including establishment stage (childless, newly married), first parenthood (family with one child under the age of 3), family with preschool children (oldest child 3-6 years), family with school children (oldest child 6-12 years), family with adolescents (oldest child 13-20 years), family as a launching center (children move out of the home), family in middle years (postprenatal empty nest), family in retirement (breadwinners in retirement).

Much of the research on the impact of family status on life stage has examined life stages in connection with work-family conflict. For example, numerous studies have found that age of youngest child is a consistent predictor of work-family conflict, with age of the youngest child negatively correlated with work-family conflict (e.g., Higgins et al., 1994). Generally, work-family conflict increases during life stages associated with having children (especially young children), and decreases as individuals move to later life stages (see Baltes & Young, 2007 for a review). Therefore, although there is without question a correlation between the life stages

proposed by Levinson (1978) and those summarized by Baltes and Young (2007), the fact that Baltes and Young's (2007) life stages take into account family status variables adds an element to the study of the stages that Levinson (1978) does not account for. Indeed, variables such as number and age of dependents, as well as marital status, are the types of variables Kooij et al. (2008) argue should be included when measuring the life-span conceptualization of age. Ornstein et al. (1989) found that promotion needs were higher at the Entering Adult World life stage (ages 22-28) relative to all other stages. Other studies have examined the relationship between life stage variables and workplace motives. For example, Holahan (1988) found no need for autonomy differences in marital status or education, but did find autonomy needs predicted increased health. Shockley and Allen (2012) found that married individuals endorsed higher levels of flextime and flexspace motives relative to unmarried individuals.

In this study, following Kooij et al.'s (2011) recommendation, the life-stage conceptualization of age was measured by asking participants to self-report the number of children and adults they care for, age of youngest child, and marital status. Although utilizing these components to measure the life-span concept of age primarily concern the life span framework that takes into account family status (e.g., Baltes & Young, 2007; Duvall & Hill, 1948), the formation of clusters will allow for a test of Levinson's (1986) conceptualization of nine life stage periods. Specifically, since Levinson's (1986) life stages are most easily conceptualized and measured using chronological age as a proxy, if the different profiles created in the cluster analysis have mean chronological ages that align with the recommendations for the life stages periods provided by Levinson (1986), that will generally support Levinson's nine-period life stage theory. Using the life stage theory that incorporates family status variables (Baltes & Young, 2007; Duvall & Hill, 1948) is more applicable in this dissertation, given that a

link was made from age clusters to workplace motivation. Much research has shown that a stronger connection exists between life stage conceptualizations based upon family status (e.g., age of youngest child) relative to chronological age in the prediction of workplace attitudes and motives (e.g., Higgins et al., 1994).

Future Time Perspective (FTP). In addition to the aforementioned conceptualizations of age, another related variable that may play an important impact in developing profiles is one's FTP. According to Cate and John (2007), FTP refers to one's perception of how much time they have left in their future and how they feel about that remaining time. Cate and John (2007) identified two dimensions of FTP, including focus on opportunities and focus on limitations. Focus on opportunities refers to the extent which individuals perceive that many opportunities await them in the future. Focus on limitations refers to the extent to which individuals believe their time is "running out" (Cate & John, 2007, p. 192) or limited. Findings from this study suggested focus on opportunities is significantly higher in the early 20s relative to the 30s and 40s, and that focus on limitations is significantly higher in the 50s relative to early 20s and 30s (Cate & John, 2007). Research by Zacher and colleagues (e.g., Zacher & Frese, 2009) suggests that a third dimension of FTP exists named remaining time at work. Zacher and Frese (2009) found the perceptions of having more remaining time and having more opportunities were related to greater subjective physical health but lower subjective mental health. Findings also suggest that chronological age and being married are related to the perceptions of having less future time (Padawer, Jacobs-Lawson, Hershey, & Thomas, 2007; Zacher & Frese, 2009). More recently, Zacher (2013) examined all three facets of FTP (remaining opportunities at work, remaining time at work, and limitations at work). Using a sample of late career workers (mean

age = 58 years), age was negatively related to focus on opportunities and remaining time, but not the dimension of focus on limitations.

The relationship between motivation and FTP is rather difficult to disentangle, given the overlap that has been aforementioned between age and FTP. In addition, nearly all research that has examined the relationship between FTP and motivation has done so using student samples and educational motivation (e.g., Peetsma, Hascher, van der Veen, & Roede, 2005; Lens et al., 2012). However, one study found that promotion orientation was positively related to focus on opportunities at work (remaining opportunities at work), whereas prevention orientation was positively related to focus on limitations at work (Zacher & de Lange, 2011). In this dissertation, FTP was measured using Carstensen and Lang's (1996) measure. Although I created a composite FTP score for each participant, Carstensen and Lang's (1996) measure allows for FTP to be broken down to the facet levels of focus on limitations and focus on opportunities. In the next section, I discuss previous research findings on relationship between age and workplace motivation, introducing two age development theories. In the end of the next section, I describe the benefits of the person-centered approach this dissertation will employ, how this study capitalizes on limitations in previous research, and derive study hypotheses.

Age and Workplace Motivation

Even though the relationships between age and workplace motivation have been reported in many studies, those studies have typically been focused on answering research questions that do not involve the intersection of age and workplace motivation. Indeed, those studies have tended to report the relationship between age and workplace motivation but not focus the meaning or implication of any relationship (Rudolph et al., 2013). Several meta-analyses have been conducted to examine the relationship between age and workplace motives (Kooij et al.,

2008, 2011). Prior to discussing the results of those meta-analyses, I incorporate several theories that are used to explain the relationship between age and workplace motives.

Selection, Optimization, and Compensation Theory (SOC). SOC posits that individuals use three strategies to adapt throughout the lifespan, including selection, optimization, and compensation (P. B. Baltes & Baltes, 1990). The three aforementioned strategies are used to maximize gains and minimize losses by focusing on resource allocation. Selection refers to the strategy by which individuals set goals. Elective selection occurs when individuals set goals freely (e.g., goal commitment). Loss-based selection occurs when individuals re-evaluate and change their goals based upon the loss of resources. Optimization refers to strategies individuals use to achieve goals, such as practice, modeling, or learning. Compensation occurs when individuals change the means to achieve a goal, when encountered with obstacles to using their original method (e.g., increasing effort, getting helping from others).

According to SOC, individuals use all three strategies across the lifespan to achieve a high-level of functioning. Furthermore, SOC theory posits that as individual's age, individuals increasingly select and pursue goals related to loss prevention and maintenance as opposed to growth or gains (P. B. Baltes & Baltes, 1990). This proposition has been supported in several studies (e.g., Ebner, Freund, & Baltes, 2006; Heckhausen, 1997). Maintenance goals are focused on keeping an individual at their current level of functioning. On the other hand, gain goals are associated with increasing one's level of functioning (Penningroth & Scott, 2012). For example, SOC theory posits that as individual's age, they are less likely than younger workers to be interested in a promotion at work (due to its requirement of increased functioning).

Previous research suggests even though use of SOC behaviors tends to increase as individuals age (e.g., Rudolph et al., 2013; Schmitt, Zacher, & Frese, 2012), SOC behaviors are

related to beneficial outcomes in the workplace for employees throughout the lifespan. For example, SOC behaviors have been associated with lower levels of family and job stressors, which in turn lead to lower reported levels of work-family conflict (Baltes & Heydens-Gahir, 2003). In addition, some research reports a non-linear relationship between aging and SOC behaviors, such that use of SOC strategies is most prevalent in middle life stages relative to younger or older life stages (Baltes & Freund, 2003). Given that the purpose of SOC strategies are to minimize age-related decreases in resources and maximize age-related gains as resources as individuals age, SOC theory posits that as individuals age, they will endorse lower levels of growth motives (e.g., need for development) and higher levels of security motives (e.g., autonomy). Indeed, SOC theory predicts that individuals will endorse lower levels of growth motives as they age due to losses they are experiencing in other areas of functioning (e.g., cognitive ability). On the other hand, SOC theory predicts individuals will endorse higher levels of security motives as they age (e.g., job security, autonomy) in order to preserve the resources they still have.

Socioemotional Selectivity Theory (SEST). SEST (Carstensen, 1992) posits that social interactions are motivated by a variety of different social goals that may change in valence across the lifespan (Carstensen, 1995). Indeed, SEST posits there are two major types of goals, including knowledge-related and emotional (Carstensen, Isaacowitz, & Charles, 1999). When individuals perceive their time left is limitless, SEST posits they will focus on fulfilling knowledge-related goals (e.g., fulfilling growth motives). A key tenet of SEST is that FTP rather than age drives motivational changes in the types of goals one sets (Lockenhoff & Carstensen, 2004). Because there is overlap between FTP and chronological age (e.g., Zacher & Frese, 2009), age was associated with differences in which types of goals individuals pursue, although

Lockenhoff and Carstensen (2004) argue the major driving force in types of goals set is FTP as opposed to age. As one example where FTP is impacted by variables outside of the aging process, research found that cancer patients tended to increase their interaction with unfamiliar contacts when they perceived their cancer treatment was effective (Pinquart & Silbereisen, 2006).

According to Lang and Carstensen (2002), types of goals associated with a limitless FTP include increasing one's network for use in the future and becoming financially independent. On the other hand, as perceived time left shifts from limitless to nearly over, SEST posits individuals move from fulfilling knowledge-related goals to fulfilling emotional goals (Carstensen et al., 1999). According to Lang and Carstensen (2002), types of goals associated with a low FTP include emotional regulation and generativity. According to Lang and Carstensen (2002) and SEST, when individuals have the same FTP, differences commonly seen in terms of chronological age disappear. Indeed, Lang and Carstensen (2002) review a number of studies that illustrate how emotional goals are prioritized as individuals view their time left as limited, regardless of age.

Much support has been garnered for SEST. For example, the seminal work of SEST found that as individuals' age, they strategically reduce their interaction frequency with acquaintances but increase their interaction frequency with close friends and partners (Carstensen, 1992). In addition to decreasing their interaction frequency with more peripheral friends, findings suggest older individuals have greater satisfaction with the size of their social networks relative to younger individuals, suggesting older individuals strategically decrease their number of interaction partners as they age, in line with SEST (Lansford, Sherman, & Antonucci, 1998). Lang and Carstensen (2002) found that individuals who viewed their time left as limited tended to set emotionally meaningful goals, which were associated with smaller personal

networks and increased social satisfaction. Supporting SEST, Hendricks and Cutler (2004) found older individuals tend to volunteer more hours than younger individuals. The relationship between SEST, FTP and workplace motives is clear. SEST posits that FTP plays an integral role in one's motivation. Specifically, SEST predicts individuals with a shorter FTP will focus on fulfilling knowledge-related goals and motives, such as growth motives (e.g., need for promotion) and social motives (e.g., need for affiliation). On the other hand, individuals with shorter FTP will focus on fulfilling security motives (e.g., job security, need for autonomy).

Relationship Between Age and Workplace Motives. Meta-analytic evidence suggests there is a small negative relationship between age and growth motives (Kooij et al., 2011). Moderator analyses performed by Kooij et al. (2011) also suggested that the negative relationship between age and growth motives was significantly stronger for those older than 40 years of age relative to those younger than 40 years of age, suggesting the negative relationship between age and growth motives is negative and non-linear in nature. Kooij et al. (2011) also examined the relationship between chronological age and types of growth motives, finding that need for advancement/promotion and need for development are negatively related to age. In a separate meta-analysis, Ng and Feldman (2012) found a negative relationship between chronological age and both motivation to learn and learning self-efficacy. Ng and Feldman (2012) also found a negative relationship between chronological age and career development behaviors. Together, these findings suggest that as individuals' age, their growth motives decrease. These findings support P. B. Baltes and Baltes' (1990) SOC theory, which posits that as individual's age, they select and pursue maintenance and loss-prevention goals as opposed to gain goals (e.g., career development, learning new things).

In regards to social motives, meta-analytic results suggested no relationship existed between age and social motives (Kooij et al., 2011). Moderator analyses performed by Kooij et al. (2011) suggested the relationship between age and social motives was negative for those under 36 years of age, positive for those between 36 and 40 years of age, and that no relationship existed for those over 40 years of age. Kooij et al. (2011) also examined the relationship between chronological age and types of social motives, finding that need for affiliation was negatively related to age. These results were supported Carstensen's SEST (1992), which posits as individuals move from having a limitless FTP to shorter FTP, they decrease their number of casual social partners and interactions, but increase the number of interactions with close friends and family. Because shorter FTP is associated with increased chronological age (Zacher & Frese, 2009), one would expect that as individual's age, their social motives decrease.

Finally, contrary to SOC theory meta-analytic results suggest a small negative relationship exists between chronological age and security motives (Kooij et al., 2011). Moderator analyses performed by Kooij et al. (2011) suggested the strongest negative relationship between age and security motives was for those under 36 years of age. On the other hand, there was no relationship between age and security motives for those between 36 and 40 years of age, and the negative relationship between age and security motives was very weak for those over 40 years of age. These findings suggest that the relationship between age and security motives may be non-linear in nature. Kooij et al. (2011) also examined the relationship between chronological age and types of security motives, including job security, need for autonomy, need for achievement, and compensation/benefits.

Meta-analytic also evidence suggests there are positive relationships between chronological age and job security, need for autonomy, and need for achievement, but a negative

relationship between age and the importance of compensation/benefits (Kooij et al., 2011). Of all the correlations between age and security motives, the correlation between age and need for autonomy was strongest, suggesting need for autonomy is the most important security motive that drives the overall relationship between age and security motives. This finding has been supported by more recent research which found that the negative relationship between age and workability was weakest when individuals felt their jobs allowed freedom and independence in how one works (high job control; Weigl, Muller, Hornung, Zacher, & Angerer, 2013).

Person-Centered Approach vs. Variable-Centered Approach. There are two major approaches that can be used to examine the relationship between age and workplace motives. To date, nearly all research has utilized a variable-centered approach. The “variable-centered” approach views the variable as the main theoretical and analytical unit, and uses analyses such as multiple regression to test hypotheses (see Bergman & Magnusson, 1997 for a review). Indeed, most research that has examined the relationship between age and workplace motivation has reported only the correlation between chronological age and the type of motivation in their study (Rudolph et al., 2013).

Although the variable-centered approach provides valuable information about the direct and unique links of each conceptualization of age with workplace motivation, it ignores the possibility that distinct constellations of age profiles exist and that these age profiles may correspond to differences in workplace motivation. Contrary to the variable-centered approach, the person-centered approach views information about individuals, rather than the variable itself, as the central object of interest, and studies “individuals on the basis of their patterns of individual characteristics that are relevant for the problem under consideration” (Bergman & Magnusson, 1997, p. 293). Often, the person-centered approach is leveraged using cluster

analysis in order to detect naturally occurring groups defined by particular profiles. In the case of conceptualizations of age, the conceptualizations would be “considered only as components of the pattern under analysis and interpreted in relation to all the other variables considered simultaneously; the relevant aspect is the profile of scores” (Bergman & Magnusson, 1997, p. 293). This generation of profiles enables one to draw conclusions on the ways in which different age conceptualizations interact to form distinct patterns that impact the ways one is motivated in the workplace. Once the age profiles are created, scores on different types of motives were compared across the profiles to determine at what aging profiles individuals are mostly likely to be motivated by growth, social, or security needs. Although underutilized in the study of age, the person-centered approach and cluster analysis have been used in the studying of many psychological processes, including motivation (e.g., Kossek, Ruderman, Braddy, & Hannum, 2012; Moran, Diefendorff, Kim, & Liu, 2012). The person-centered approach was utilized in this dissertation to find distinct age conceptualization profiles that may be differentially related to the different types of workplace motives.

Hypothesis Development

Since more variance is found in the age conceptualizations of subjective age, functional age, and FTP as individuals age chronologically, the majority of hypotheses surrounding the different age profiles or clusters that was found concern employees at mid-ages (e.g., approximately 45 years of age) and at later ages (e.g., approximately 60 years of age). Please see Table 1 for a summary of Hypotheses 1-7. These seven hypotheses were formed using many of the research findings discussed previously. These may not be the only profiles that exist. In addition, it is possible that some hypothesized profiles was supported in the cluster analysis and some will not be supported. As I detail in the methods section, support for these original

hypotheses were tested. If results suggest alternate profiles exist, additional analyses will be conducted. Hypotheses 8-14 were conducted using the cluster solutions that have the best empirical support. Please see Table 2 for a summary of Hypotheses 8-14. Given the most overlap is expected between the conceptualizations of age at low chronological ages, the following hypothesis is made:

Hypothesis 1: A profile will emerge with individuals at low chronological age, low organizational age, older or same subjective age (relative to chronological age), great physical health, low number of dependents, and longer FTP. This profile would be entitled “Classic Young Age”.

Arguably, the middle chronological age stage (approximately ages 35 to 50 years of age) has the least amount of overlap between conceptualizations of age. That is, between individuals, there will exist great variability, especially in terms of the life span conceptualization of age (e.g., number of dependents, marital status) and organizational age. The first middle chronological age profile is similar to the only low chronological age profile, with expected main effect increases in chronological age, organizational age, and number of dependents, and expected decreases in physical health as individual age chronologically. In addition, it is expected that individuals will have younger subjective age (relative to their chronological age) than those in Profile 1. These expectations in terms of worse health and younger subjective age as individuals’ age chronologically are in line with previous findings outlined in the introduction.

Hypothesis 2: A profile will emerge with individuals at medium chronological age, medium organizational age, younger subjective age (relative to chronological age), good physical health, average of two dependents, and average FTP. This profile would be entitled “Classic Middle Age”.

The section on organizational age earlier outlined how individuals can recycle to previous career stages. Hypothesis 3 accounts for these individuals who have recycled to an earlier career stage based upon their move to a new role within their organization (low job tenure) or moved to a new organization (low organizational tenure). Other than decreased job tenure relative to Profile 2, there are no expected differences between Profiles 2 and 3.

Hypothesis 3: A profile will emerge with individuals at medium chronological age, low organizational age, younger subjective age (relative to chronological age), good physical health, average of two dependents, and average FTP. This profile would be entitled “Recycled Career Middle Age”.

In addition to organizational age, there will exist differences between individuals at the middle chronological stage on the life-span conceptualization age variables of marital status and number of dependents. Profile 4 takes into account that 18% of U.S. women do not have children, a trend which has increased from 10% in 1976 (Livingston & Cohn, 2010). The only differences between Profiles 2 and 4 are that Profile 4 has no dependents.

Hypothesis 4: A profile will emerge with individuals at medium chronological age,

medium organizational age, younger subjective age (relative to chronological age), good physical health, no dependents, and average FTP. This profile would be entitled “No Dependents Middle Age”.

Hypotheses 5-7 regard those in late stage chronological age. From the middle to late chronological age stage, there are expected increases in organizational age. In addition, in line with previous research, individuals are generally expected to have poorer health, younger subjective age (relative to their chronological age), and shorter FTP as they move from the middle to late chronological age stage. Profile 5 reflects this general trend moving from middle to late chronological age stage. Number of dependents are expected to be 0 for those in Profiles 5 and 6, but greater than one in Hypothesis 7, reflecting those who care for aging parents or have dependent children.

Hypothesis 5: A profile will emerge with individuals at high chronological age, high organizational age, much younger subjective age (relative to chronological age), good physical health, no dependents, and shorter FTP. This profile would be entitled “Classic Late Age”.

Given that health is expected to be lowest in the late chronological age stage, it is expected that a profile of older workers with poor health and associated shorter FTP will emerge in Profile 6. The expected relationship between poor health and FTP is supported by previous research. The expected poorer health and shorter FTP with this profile are also expected to be related to an older or same subjective age (relative to chronological age). Concisely, the

differences between Profiles 5 and 6 are that those in Profile 6 are expected to have poorer health, a shorter FTP, and older subjective age.

Hypothesis 6: A profile will emerge with individuals at high chronological age, high organizational age, older or the same subjective age (relative to chronological age), fair physical health, no dependents, and Shorter FTP. This profile would be entitled “Late Age Shorter FTP”.

The final profile takes into account late chronological age stage employees who have aging parents or dependent children that count on them, given the increasing trend for this to be the case. Indeed, findings suggest 25% of employees aged 45-74 years care for one or more dependents, and 14% of older workers care for both a dependent child and adult (Groeneman, 2008). The only difference between Profiles 5 and 7 are that those in Profile 7 have dependents or adults they care for.

Hypothesis 7: A profile will emerge with individuals at high chronological age, high organizational age, much younger subjective age (relative to chronological age), good physical health, at least 1 dependent and shorter FTP. This profile would be entitled “Late Age with Dependents”.

Hypotheses 8-14 are centered on the relationship between the hypothesized age profiles and workplace motives. Even though hypotheses were made only using the major motive classes of growth, social, and security, we will test the relationship between the age conceptualization

clusters and the smaller facets of motives (e.g., need for autonomy, need for achievement, compensation and benefits and job security for security motives). Please see Table 2 for a summary of Hypotheses 8-14.

Hypothesis 8: Supporting SOC and SEST, Profile 1 will have the highest level of growth and social motives, and lowest level of security motives.

Hypothesis 9: Profile 3 will have significantly higher growth and social motives relative to Profile 2 due to lower levels of organizational age.

Hypothesis 10: Profile 4 will have significantly higher growth motives and lower security motives than Profiles 2 and 3 due to having no dependents.

Hypothesis 11: Supporting SEST theory, Profile 6 will have significantly lower social motives relative to Profile 5 due to their shorter FTP and below average functional age.

Hypothesis 12: Supporting SOC theory, Profile 7 will have significantly growth and security motives than Profiles 5 and 6 because dependents live with them.

Hypothesis 13: Supporting SEST theory, profiles with similar levels of FTP will show no differences in social motives.

Hypothesis 14: Supporting SOC and SEST theory, Profile 5 will have lower levels of growth and social motives than Profiles 1 and 2, and higher levels of security motives than Profiles 1 and 2.

CHAPTER 3: METHODS

Participants

Qualtrics panelists from the United States ($n = 400$) who reported working thirty or more hours per week in a full-time job participated in the study. The participant sample was stratified to be in line with the chronological age distribution of the U.S. workforce (U.S. Bureau of Labor Statistics, 2015, see Table 3). Given many of the study hypotheses revolve around individuals at middle and later age, we oversampled middle and later age participants to ensure an adequate sample.

Prior to conducting any analyses on study hypotheses, analyses were conducted to detect participants that were carelessly responding to the survey. The first careless responding analysis concerned the variable of subjective age. Participants completed a 4-item measure that asked them to self-report how old in age they felt in comparison to members of their peer group, using a 1 (*a lot younger than my age*) to 7 (*a lot older than my age*) response range (see Appendix F; Montepare, Rierdan, Koff, & Stubbs, 1989). If participants answered with any response other than “4” (same as their chronological age) on the measure, they were asked to self-report in years the age they felt. Therefore, analyses were conducted to determine participants that reported feeling younger relative to most people their age (indicated by a 1-3 response on the Likert scale), but reported on the follow-up open-ended question feeling the same number of years as their chronological age, or older than their chronological age, as these two patterns of responses on consecutive questions indicates careless responding. In addition, I determined participants that reported feeling older relative to most people their age (indicated by a 5-7 response on the Likert scale), but reported on the follow-up open-ended question feeling the same number of years as their chronological age, or younger than their chronological age, as these two patterns of

responses on consecutive questions indicates careless responding. Analyses revealed that on the four subjective age questions, 33 participants had at least two subjective age scores on the Likert scale that were incompatible with the responses given on the follow-up open-ended question. Given these incompatible scores, the importance of subjective age to test study hypotheses, and impact of careless responding on the validity of results, these 33 participants were deleted from further analysis.

The next step was to conduct analyses on the amount of time it took participants to complete the survey, as taking too much time or too little time to complete the survey may indicate careless responding. Seventeen participants took over one hour to complete the survey, which consisted of only 130 items. In the final sample used for analyses, participants ($n = 348$) took from 6.8 minutes to 58.3 minutes to complete the survey ($M = 17.80$ minutes, $SD = 9.08$ minutes). Therefore, participants who took over one hour to complete the survey had a z score of 4.31. In addition, the one hour response time mark indicated a gap in the distribution of response times. Specifically, the five participants with response times nearest the one hour mark had the following distribution of response times: 55.5 minutes, 56.0 minutes, 57.8 minutes, 58.3 minutes, and 69.3 minutes. The eleven minute difference in response times between 58.3 minutes and 69.3 minutes was further evidence that one hour may be a good cutoff point that indicates lack of focus and attention to completing the survey.

Analyses were conducted to determine the profile of individuals who took over one hour to complete the survey. The ages of these participants ($n = 17$) ranged from 27 to 61 years ($M = 41.35$, $SD = 12.10$), which was very similar to the sample used to test study hypotheses ($n = 348$; range 20 to 71 years of age, $M = 45.20$ years, $SD = 8.90$ years). The hours worked per week for those that took over an hour to complete the survey ($n = 17$) ranged from 32 to 55 ($M =$

40.41 years, $SD = 5.95$ years), which was very similar to the sample used to test study hypotheses ($n = 348$; range 30 to 80 years, $M = 39.85$ years, $SD = 5.51$ years). 65% of participants that took over an hour to complete the survey ($n = 17$) did not have dependent children (compared to 53% of the sample used to test study hypotheses; $n = 348$). 71% of participants that took over an hour to complete the survey ($n = 17$) were female (compared to 63% of the sample used to test study hypotheses; $n = 348$). 88% of participants that took over an hour to complete the survey ($n = 17$) were Caucasian (compared to 81% of the sample used to test study hypotheses; $n = 348$). Because participants who took over one hour to complete the survey were statistically outliers, the distribution of response times indicated a natural divergence in response times at one hour, and there were no apparent differences between the profile of those taking over an hour to complete the survey ($n = 17$) relative to those participants that were included to test study hypotheses ($n = 348$), the seventeen participants who took over one hour to complete the survey were deleted from further analysis.

Even though it could be argued that taking under ten minutes to complete the 130-item survey indicates careless responding, I utilized three attention filler questions. These items were mixed into the survey and told participants how to respond (e.g., “3” on a 1 to 7 scale). Individuals who did not answer correctly to the attention filler questions were excluded from the final data set of 400 participants sent to me from Qualtrics. 15% of participants took under ten minutes to complete the survey, and based upon the mean ($M = 17.80$ minutes) and standard deviation ($SD = 9.08$ minutes) of response times, completing the survey in under ten minutes was not a statistically significant response times. Because those who took under ten minutes to complete the survey were a substantial amount of the sample size (15%), answered the filler questions correctly, and did not have two or more subjective age scores on the Likert scale that

were incompatible with the responses given on the follow-up open-ended question, participants that took under ten minutes to complete the survey were included in further analyses.

Finally, in screening for univariate outliers, two participants had z-scores on several workplace motives that were above 3.29. Given their scores were univariate outliers on several workplace motives, these two participants were deleted from further analysis. After the outlier analysis was completed, 348 participants remained in the data set and were used to test the study hypotheses. All further descriptions of the participants in the study refer to the remaining sample after careless responding and outlier analyses were completed ($n = 348$).

Participants ranged in age from 20 to 71 years of age ($M = 45.20$ years, $SD = 8.90$ years). 10% of participants were in their twenties. 24% of participants were in their thirties. 24% of participants were in their forties. 27% of participants were in their fifties. 14% of participants were in their sixties. 1% of participants were in their seventies. The majority of participants were female (61%) and did not have dependents (53%). In this study, dependents referred to children living in the household who were cared for financially by their parents. As seen in Table 4, the participant sample consisted of a lower percentage of workers in their twenties relative to the U.S. workforce distribution (see Table 3). However, the participant sample had a higher representation of workers in their thirties, forties (with the exception of the 45-49 age group), fifties, and sixties (see Table 4) relative to the U.S. workforce distribution (see Table 3), allowing for adequate testing of study hypotheses.

A majority of participants were married and living with their partner (51%) or single (35%). The sample had a large distribution in educational attainment, as 35% of participants had a Bachelor's degree, 34% had at least some college, and 17% were high school graduates. The majority of the sample was White (81%), followed by African-American (7%), Asian (5%) and

Hispanic (4%). Two or More, Native Americans, Middle East/Arab, and Other ethnicities made up the remaining 3% of participants. Participants' represented a wide variety of industries, with the top three industries including retail trade (13%) education (12%) and healthcare (10%). 30% of respondents indicated they worked in "Other industries".

Published studies using Qualtrics survey panels as the participant pool can be found in all of the top-tier journals in Industrial/Organizational Psychology, including *Journal of Applied Psychology* (e.g., DeCelles, DeRue, Margolis, & Ceranic, 2012; Strauss, Griffin, & Parker, 2012), *Journal of Management* (e.g., Dillon, Tinsley, Madsen, & Rogers, 2013), *Personnel Psychology* (e.g., Holtz, in press), *Journal of Organizational Behavior* (e.g., Gu, McFerran, Aquino, & Kim (2014), and *Academy of Management Journal* (e.g., Long, Bendersky, & Morrill, 2011).

Materials

Participants completed a 130-item survey and were asked to self-report questions in conjunction with their conceptualizations of age, workplace motives, and FTP. To measure *chronological age*, participants self-reported their age in years (see Appendix A). To measure the *organizational age* component of age, participants' self-reported the number of years they have been employed in their current organization (*organizational tenure*), number of years they have been performing the same or similar role (*job tenure*), and number of years they have been in their current industry (*industry tenure*); See Appendix B). Participants also self-reported the number of years they have been in their current industry. To measure career stage and allow for recycling back to earlier career stages for the ad hoc analyses, participants completed Perrone, Gordon, Fitch, and Civiletto's (2003) 12-item short form of Super, Thompson, and Lindeman's (1988) 60-item Adult Career Concerns Inventory (see Appendix C). Participants self-reported the

extent to which they have concern about completing certain tasks (e.g., “Finding the line of work that I am best suited for” for the exploration stage, “Settling down in a job I can stay with” for the establishment stage, “Keeping the respect of people in my field” for the maintenance stage”, and “Planning well for retirement” for the disengagement stage) using a 1 (*no concern*) to 7 (*great concern*) response range. To measure *functional age*, participants completed Kristensen, Hannerz, Hogh, and Borg’s (2005) 1-item measure, “How would you rate your general health”, using a 1 (*poor*) to 5 (*excellent*) response range (see Appendix D). To measure the *life span* conceptualization of age, participants self-reported their number of dependents (referred to children living in the household who were cared for financially by their parents), age of youngest child, number of individuals they care for, and marital status (see Appendix E). To measure the *subjective age* conceptualization of age, participants completed a 4-item measure that asked them to self-report how old in age they feel, look, act, and the age that reflects their interests in comparison to members of their peer group, using a 1 (*a lot younger than my age*) to 7 (*a lot older than my age*) response range (see Appendix F; Montepare, Rierdan, Koff, & Stubbs, 1989). The same conceptualization of the four facets of subjective age has been utilized in numerous studies (e.g., Hubley & Russell, 2009; Kaliterna et al., 2002). In addition, participants answered with any response other than “4” (same as my age) on the measure, they were asked to self-report in years the age they look, feel, act, and the age that reflects their interests. In this second method, subjective age was calculated by creating a composite of the four items, and subtracting chronological age from the composite subjective age score. Negative scores indicated more youthful subjective age. In addition, this acted as a check for outliers, as individuals who responded they felt older (or younger) than their chronological age, but then self-reported feeling younger (or older) were considered as possible outliers for analyses. FTP was measured with

Carstensen and Lang's (1996) 10-item scale using a 1 (*very untrue*) to 7 (*very true*) response range (see Appendix G). A sample item from this scale is "Many opportunities await me in the future."

To assess growth motives, participants completed three separate measures including development/challenge, growth need strength, and advancement/promotion motives. Development/challenge motives was measured with Kooij and Van de Voorde's (2011) 4-item scale using a 1 (*totally not important*) to 7 (*totally important*) response range (see Appendix H). A sample item from this scale is "How important is the opportunity for personal development for you?" Growth need strength was measured with Hackman and Oldham's (1980) 6-item scale using a 1 (*totally not important*) to 7 (*totally important*) response range. (see Appendix I). A sample item from this scale is "How important is the feeling of worthwhile accomplishment I get from doing my job?" Advancement/promotion needs was measured with Neubert et al.'s (2008) 9-item scale using a 1 (*strongly disagree*) to 7 (*strongly agree*) response range (see Appendix J). A sample item from this scale is "I take chances at work to maximize my goals for advancement."

To assess social motives, participants completed four measures, including need for affiliation, helping behavior, need for recognition, and prestige/status. Need for affiliation was measured with Steers and Braunstein's (1976) 5-item scale using a 1 (*never*) to 7 (*always*) response range (see Appendix K). A sample item from this scale is "When I have a choice, I try to work in a group instead of by myself?" Conceptualized as communion striving in Barrick, Stewart, and Piotrowski's (2002) original work, helping behavior was measured with Barrick et al.'s (2002) 9-item measure using a 1 (*strongly disagree*) to 7 (*strongly agree*) response range (see Appendix L). A sample item from this scale is "I focus my attention on getting along with

others at work.” Need for recognition was measured with Alpander and Carter’s (1991) 2-item measure using a 1 (*strongly disagree*) to 7 (*strongly agree*) response range (see Appendix M). A sample item from this scale is “I welcome assignments that provide a lot of recognition?” Conceptualized as status striving by Barrick et al. (2002), prestige/status was measured with Barrick et al.’s (2002) 11-item measure using a 1 (*strongly disagree*) to 7 (*strongly agree*) response range (see Appendix N). A sample item from this scale is “I feel a thrill when I think about getting a higher status position at work.”

To assess security motives, participants completed five measures, including need for autonomy, need for achievement, use of skills (self-actualization), compensation and benefits, and need for security. Need for autonomy and need for achievement was measured with Steers and Braunstein’s (1976) 5-item scales using a 1 (*never*) to 7 (*always*) response range. A sample item from the need for autonomy scale is “I disregard rules and regulations that hamper my personal freedom” (See Appendix O). A sample item from the need for achievement scale is “I do my best work when my job assignments are fairly difficult” (see Appendix P). Use of skills was measured with two items from Porter’s (1961) self-actualization measure using a 1 (*totally not important*) to 7 (*very important*) response range (see Appendix Q). A sample item from this scale is “How important is the feeling of worthwhile accomplishment in your position?” Compensation and benefits motives was measured with Porter’s (1961) 1-item measure using a 1 (*totally not important*) to 7 (*very important*) response range (see Appendix R). A sample item from this scale is “How important is the pay for your position?” Need for security was measured with nine items from Neubert et al.’s (2008) need for security measure using a 1 (*strongly disagree*) to 7 (*strongly agree*) response range (see Appendix S). A sample item from this scale is “I concentrate on completing my work tasks correctly to increase my job security.”

CHAPTER 4: RESULTS

Analyses

Descriptive Analyses. Means, standard deviations, ranges, and reliability coefficients of the study scales are provided in Table 5. Composite averages for each scale were formed. A composite for organizational age was created using the average of the job tenure and organizational tenure item ($\alpha = .89$). Industry tenure was not included in the creation of the composite, as adding it decreased the reliability of the organizational age composite. As seen in Table 5, on average participants had younger subjective age ($M = 3.46$, $SD = 0.99$) and above-average health ($M = 3.34$, $SD = 0.97$). All motivation scales had scale averages greater than the scale midpoint (4). Need for autonomy had the lowest mean score ($M = 4.06$, $SD = 1.07$).

All reliability coefficients for the motivation scales were above .60, with the exception of need for affiliation ($\alpha = .09$), need for autonomy ($\alpha = .65$), and need for recognition ($\alpha = .66$). Further inspection revealed removal of the two reverse-coded need for affiliation items raised the reliability to $\alpha = .37$. Even though the reliability for the need for affiliation scale was extremely low, similar low reliabilities have been found using Steers and Braunstein's (1976) need for affiliation scale, including $\alpha = -.11$ in Dreher (1980), $\alpha = .09$ in Williams & Woodward, (1980), and $\alpha = .18$ in Joiner (1982; see Dreher and Mai-Dalton, 1983 for a review). Given the low reliability of the need for affiliation scale, it was removed from any subsequent analyses.

Furthermore, initial reliability of the need for achievement scale was $\alpha = .55$. Further inspection revealed removal of the one reverse-coded need for achievement item raised the reliability to $\alpha = .73$. Therefore, for all subsequent analyses, the four-item need for achievement was used to create the need for achievement composite. The initial reliability for the need for autonomy scale was $\alpha = .63$. Further inspection revealed removal of one of the reverse coded

need for autonomy items raised the reliability to $\alpha = .65$. Therefore, for all subsequent analyses, the four-item need for autonomy scale was used to create the need for autonomy composite. Even though the reliability coefficients for need for autonomy ($\alpha = .65$) and need for recognition ($\alpha = .66$) were below the typical standard of $\alpha = .70$ (e.g., Nunnally, 1978), a reliability of above .70 is desirable but not a hardened guideline, and Kooij et al.'s (2011) meta-analysis found that often the reliability coefficients for Steers and Braunstein's (1976) Manifest Needs Questionnaire is below .70.

Correlations between all study variables are presented in Table 6. There was strong overlap between the six conceptualization of age variables. Chronological age was significantly related to all conceptualization of age variables, most strongly with organizational age ($r = .43, p < .001$) and most weakly with health ($r = -0.13, p = .01$). Subjective age was weakly correlated with all age conceptualizations except organizational age and number of dependents, and was most highly correlated with health and chronological age, indicating that feeling younger than one's chronological age is associated with increased chronological age ($r = -0.29, p = .001$) and health ($r = -0.29, p = .001$), both of which have been found in previous research (e.g., Borzumato-Gainey et al., 2009; Mock & Eibach, 2011). Organizational age was unrelated to the age conceptualizations of FTP, health, and number of dependents.

As posited by SEST subjective age was negatively correlated with FTP ($r = -.16, p = .002$), indicating that feeling younger than one's chronological age is associated with greater feelings that one's future is long. In addition to its relationship with subjective age, better health was positively related to FTP ($r = .44, p = .001$). Number of dependents was weakly correlated with subjective age ($r = .12, p = .03$) and FTP ($r = .16, p = .003$), and most strongly with chronological age ($r = -.27, p = .001$). As seen in Table 5 and outlined in the Methods section, I

calculated both a subjective age score and subjective age discrepancy score. As seen in Table 6, subjective age measured on the Likert scale was strongly correlated with the subjective age discrepancy score ($r = .81, p < .001$). In addition, the direction of the correlation (positive or negative) between all study variables and subjective age was the same for both subjective age and the subjective age discrepancy score. However, the magnitude of the relationships was slightly different. For example, chronological age was more strongly related to the subjective age discrepancy score than subjective age ($-.47$ vs. $-.29$). However, FTP and health were more strongly related to subjective age as opposed to the discrepancy score. These results indicate that both subjective age and subjective age discrepancy are valid measures of subjective age. For all future analyses, I use subjective age as opposed to the subjective age discrepancy score.

As seen in Table 6, the correlations between age conceptualizations and workplace motivation were generally weak. Focusing on only correlations greater than .20, need for achievement was positively correlated with FTP ($r = .35$) and health ($r = .28$), need for recognition was negatively correlated with chronological age ($r = -.26$), prestige was negatively correlated with chronological age ($r = -.23$) and positively correlated with FTP ($r = .23$) and health ($r = .20$), need for promotion was negatively correlated with chronological age ($r = -.38$) and positively related to FTP ($r = .42$) and health ($r = .25$), use of skills was positively related to FTP ($r = .25$), GNS was positively related to FTP ($r = .35$) and health ($r = .23$), and development was positively related to FTP ($r = .38$) and health ($r = .22$). The intercorrelations between the different workplace motives were generally high (see Table 6).

Cluster Analysis. To complete Hypotheses 1-7 regarding the age conceptualization profiles, cluster analysis was utilized. Although several studies have reviewed the lack of any sample size guidance for cluster analysis (e.g., Dolnicar, 2002), one study (Formann, 1984)

suggests the minimum sample size when performing cluster analysis is 2^k , where k represents the number of variables. In this dissertation, given six variables were used to form clusters (chronological age, subjective age, health, organizational age, FTP, and number of dependents), the minimum recommended sample size was 64. Therefore, the sample size of 348 was more than adequate. Three different major types of cluster analysis exist, including hierarchical cluster analysis, *k-means* cluster analysis, and two-step cluster analysis (Norusis, 2012). The appropriateness of which type of cluster analysis to utilize depends on several factors, including size of the dataset, types of variables in the data set (e.g., continuous, categorical), and whether or not specific hypotheses are derived a priori, or the analysis is exploratory in nature. Hierarchical cluster analysis is particularly useful when one has a small data set, does not have a priori hypotheses, and uses only one type of variable. *K-means* cluster analysis is particularly useful with smaller data sets, a priori hypotheses, and only uses one type of variable. Two-step cluster analysis is particularly useful when using large data sets, no a priori hypotheses, and when there is a mix of categorical and continuous variables in the analysis.

K-means cluster analysis is the most appropriate cluster analysis to test study hypotheses given this study had a small to medium data set, a priori hypotheses, and only utilized continuous variables. However, prior to conducting *k-means* cluster analysis, I performed hierarchical cluster analysis to ensure the data suggested there were actually seven clusters, in line with study hypotheses (see Table 1). The hierarchical cluster analysis was conducted in two major steps. First, means of the six age conceptualization variables were standardized to 0 and standard deviations were standardized to 1 (*z-score*). In addition, univariate and multivariate outliers were screened for and deleted appropriately (two cases mentioned in the Methods section), given their large effect in *k-means* cluster analysis. Next, hierarchical cluster analysis utilizing Ward's

(1963) method and squared Euclidean distance measure of similarity was conducted. Inspection of the agglomeration schedule (See Table 7) indicated a large increase in the coefficients in the last four stages of the cluster analysis, indicating a greater distance and heterogeneity of clusters being combined in the last four stages. As discussed by Yim and Ramdeen (2015), the first large increase in coefficients within the agglomeration schedule indicates a location at which the clustering process should be ended, as the cases being combined in those clusters are very different. Inspection of the agglomeration schedule revealed the clustering process should be ended prior to the last four stages.

In addition to the agglomeration schedule, I examined the dendrogram to determine the number of clusters that should be retained. The dendrogram can be viewed in Figure 1. As discussed by Yim and Ramdeen (2015), a useful approach to determining the number of clusters to retain is to use information from both the agglomeration schedule and dendrogram. Since inspection of the agglomeration schedule revealed the last four stages should be eliminated from the clustering process (see Table 7), I have drawn a dotted vertical line within the dendrogram in Figure 1 at the point at which the last four stages would be eliminated from the cluster solution (as indicated by the four vertical lines to the right of the dotted vertical line). As seen in Figure 1, this vertical line passes through five clusters, indicating that a five-cluster solution should be retained by the *k-means* cluster analysis. The five cluster solution was contrary to the study hypotheses of a seven-cluster solution. Even though seven clusters were not supported by the hierarchical cluster analysis, it is still possible that some of the hypothesized clusters could still be found in the five-cluster solution. Therefore, the next step was to conduct *k-means* cluster analysis on the six standardized age conceptualization variables. In line with the hierarchical cluster analysis, *k* was set to five clusters in the analysis. The cluster analysis was

completed after ten iterations, with 87 participants (25%) in Cluster 1, 87 participants (25%) in Cluster 2, 67 participants (19%) in Cluster 3, 70 participants (20%) in Cluster 4, and 36 participants (10%) in Cluster 5.

As seen in Table 8, Cluster 1 ($n = 87$) consisted of participants with older chronological age, above average FTP, average organizational age, the smallest number of dependents and best health of any cluster, as well as the youngest subjective age of any cluster. This cluster was not hypothesized in Table 1. Given the attributes of the cluster, this cluster was titled “Late Age Longer FTP”. Cluster 2 ($n = 87$) consisted of participants with the youngest average chronological age, lowest organizational age, highest FTP, and oldest subjective age of any cluster, as well as above average health. This cluster corresponded very closely with the hypothesized “Classic Young Age” profile (see Table 1). Cluster 3 ($n = 67$) consisted of participants with medium chronological age, the highest number of dependents of any cluster, average health and organizational age, above average FTP, and slightly older than average subjective age. This cluster corresponded very closely with the hypothesized “Classic Middle Age” profile (see Table 1). Cluster 4 ($n = 70$) consisted of participants with older chronological age, slightly older than average subjective age, average organizational age, and the poorest health and lowest FTP of any cluster. This cluster was similar to Cluster 1 in terms all age conceptualizations, with the exception of lower FTP and poorer health. This cluster corresponded very closely with the hypothesized “Late Age Shorter FTP” profile (see Table 1). Cluster 5 ($n = 36$) consisted of participants with the oldest chronological age and organizational age of any cluster, average health, below average FTP, and more youthful subjective than average. This cluster corresponded very closely with the hypothesized “Classic Late Age” profile (see Table 1). Clusters 1, 4, and 5 were similar in their older chronological age. The differences were that

Cluster 1 had much more youthful subjective age, longer FTP, and greater health relative to Clusters 4 and 5. Cluster 5 had more organizational tenure than Clusters 1 and 4, and had more youthful subjective age, longer FTP, and greater health relative to Cluster 4. Cluster 4 had the least youthful subjective age, shortest FTP, and poorest health of any age. In total, four of the five clusters corresponded to hypothesized clusters seen in Table 1 (Clusters 1, 2, 5, and 6 from Table 1), whereas the hypothesized Clusters 3, 4, and 7 from Table 1 were not supported. The Late Age Longer FTP cluster (Cluster 1 in Table 8) was the only found cluster that was not hypothesized.

ANOVAs on Age Conceptualizations. To determine the extent to which significant differences existed between the age conceptualization profiles on the age conceptualizations, six one way ANOVAs, were conducted. In each case, the independent variable was cluster membership, and the dependent variable was the age conceptualization being analyzed. Given that all seven hypotheses in Table 1 were not supported, and that a cluster not hypothesized (Cluster 1) emerged, I conducted post hoc analyses as opposed to planned comparisons. All post hoc tests were completed using the Bonferroni correction. Specifically, in each one-way ANOVA, there were ten pairwise comparisons, given there were five clusters. Therefore, p values were only significant at $p < .05/10$ (number of comparisons). Therefore, significant differences between the clusters existed when the differences were significant at $p < .005$. Table 8 gives a breakdown of all ANOVAs results and significant differences. Table 9 summarizes the major differences between the clusters on the age conceptualizations.

A one-way ANOVA suggested there were significant differences in chronological age, $F(4, 342) = 109.98, p = <.001$ between the age profiles. Levene's test was significant, $F(4, 342) = 5.00, p = .001$, indicating the equal variances cannot be assumed. Since unequal variances cannot

be assumed, a Welch (1951) F was conducted. Results indicated significant differences in chronological age between the age profiles, $F(4, 147.63) = 156.78, p < .001$. Because unequal variances were found, post-hoc analyses were conducted using the Games-Howell post hoc test.

Supporting Hypotheses 1 and 2, Games-Howell post hoc tests revealed participants in the Classic Young Age cluster had significantly younger chronological age ($M = 32.53, SD = 6.36, p < .001$) than participants in each of the other four clusters (See Table 8 for all means and standard deviations). Supporting Hypothesis 5, Games-Howell post hoc tests revealed participants in the Classic Late Age cluster had significantly older chronological age ($M = 59.81, SD = 6.15, p < .001$) than participants in each of the other four clusters. Post hoc tests also revealed participants in the Classic Middle Age cluster had significantly younger chronological age ($M = 41.36, SD = 8.39, p < .001$) than participants in the three older chronological age clusters of Late Age Longer FTP, Late Age Shorter FTP, and Classic Late Age, and significantly older chronological age than participants in the Classic Young Age cluster. Post hoc tests revealed participants in the Late Age Longer FTP cluster ($M = 51.71, SD = 8.91, p < .001$) and the Late Age Shorter FTP cluster ($M = 51.53, SD = 9.56, p < .001$) had significantly older chronological age than participants in the Classic Young Age cluster and Classic Middle Age cluster, as well as significantly younger chronological age than participants in the Classic Late Age cluster. See Table 8 for all means and standard deviations.

A second one-way ANOVA suggested there were significant differences in organizational age, $F(4, 342) = 101.22, p < .001$ between the age profiles. Levene's test was significant, $F(4, 342) = 5.43, p < .001$, indicating that equal variances cannot be assumed. Since equal variances cannot be assumed, a Welch (1951) F was conducted. Results indicated significant differences in organizational age between the age profiles, $F(4, 138.11) = 156.78, p <$

.001. Because unequal variances were found, post-hoc analyses were conducted using the Games-Howell post hoc test.

Supporting Hypothesis 2, Games-Howell post hoc tests revealed participants in the Classic Young Age cluster had significantly lower organizational age ($M = 5.24, SD = 4.06$) than participants in the Classic Middle Age cluster ($M = 9.36, SD = 5.58, p < .001$). Supporting Hypothesis 5, post-hoc tests revealed participants in the Classic Young Age cluster had significantly lower organizational age ($M = 5.24, SD = 4.06$) than participants in the Classic Late Age cluster ($M = 26.39, SD = 8.38, p < .001$). In addition, participants in the Classic Young Age cluster had significantly lower organizational age than the Late Age Longer FTP cluster ($M = 8.06, SD = 5.71, p = .002$).

Games-Howell post hoc tests revealed participants in the Classic Late Age cluster had significantly higher organizational age ($M = 26.39, SD = 8.38, p < .001$) than participants in each of the other four clusters (See Table 8 for all means and standard deviations). Post hoc tests also revealed that participants in the Classic Middle Age cluster did not have significant differences in organizational age ($M = 9.36, SD = 5.58$) relative to participants in the Late Age Longer FTP cluster ($M = 8.06, SD = 5.71, p < .62$) and Late Age Shorter FTP cluster ($M = 7.14, SD = 5.03, p = .11$). Post hoc tests revealed participants in the Late Age Longer FTP cluster ($M = 8.06, SD = 5.71$) and Late Age Shorter FTP cluster ($M = 7.14, SD = 5.03$) had significantly younger organizational age than participants in the Classic Late Age cluster ($M = 26.39, SD = 8.38$). In addition, participants in the Late Age Longer FTP cluster had significantly higher organizational age than participants in the Classic Young Age cluster, ($p < .001$), whereas there was no such difference between the Classic Young Age cluster and Late Age Shorter FTP cluster ($p = .09$; See Table 8 for all means and standard deviations).

A third one-way ANOVA suggested there were significant differences in number of dependents, $F(4, 342) = 136.54, p = <.001$ between the age profiles. Levene's test was significant, $F(4, 342) = 5.79, p < .001$, indicating the equal variances cannot be assumed. Since equal variances cannot be assumed, a Welch (1951) F was conducted. Results indicated significant differences in number of dependents between the age profiles, $F(4, 141.83) = 102.52, p < .001$. Because unequal variances were found, post-hoc analyses were conducted using the Games-Howell post hoc test.

In support of Hypothesis 2 but not Hypothesis 1, Games-Howell post hoc tests revealed participants in the Classic Middle Age cluster had significantly more dependents ($M = 2.79, SD = 0.93, p < .001$) than participants in each of the other four clusters. Post hoc tests also revealed participants in the Classic Young Age cluster also had significantly more dependents ($M = 0.75, SD = 0.81, p < .001$) than the Late Age Longer FTP cluster ($M = 0.28, SD = 0.52, p < .001$). See Table 8 for all means and standard deviations.

A fourth one-way ANOVA suggested there were significant differences in subjective age, $F(4, 342) = 39.40, p = <.001$ between the age profiles. Levene's test was not significant, $F(4, 342) = 1.89, p = .11$, indicating that equal variances existed. Since equal variances existed, Bonferroni post hoc tests controlling for familywise error rate were conducted. In support of Hypothesis 1, post hoc tests revealed participants in Classic Young Age cluster had older subjective age ($M = 4.04, SD = 0.71, p < .001$) than participants in the Late Age Longer FTP cluster ($M = 2.65, SD = 0.75, p < .001$) and Classic Late Age cluster ($M = 3.03, SD = 0.77, p < .001$). However, contrary to Hypothesis 1, there was no significant difference between the Classic Young Age cluster and the Late Age Shorter FTP cluster ($M = 3.87, SD = 1.01, p = .72$). Furthermore, contrary to Hypothesis 2, the difference in subjective age between the Classic

Young Age cluster and the Classic Middle Age cluster ($M = 3.61$, $SD = 0.83$, $p = .01$) was not statistically significant when controlling for familywise error, although it was very close to reaching statistical significance. Contrary to Hypotheses 5, there was no significant difference in subjective age between the Classic Middle Age cluster ($M = 3.61$, $SD = 0.83$) and the Classic Late Age cluster ($M = 3.03$, $SD = 0.77$, $p = .006$), although it was very close to reaching statistical significance. Supporting Hypothesis 6, post hoc tests revealed participants in the Classic Late Age cluster had significantly more youthful subjective age ($M = 3.03$, $SD = 0.77$, $p < .001$) than participants in the Late Age Shorter FTP cluster ($M = 3.87$, $SD = 1.01$, $p < .001$). In addition, post hoc tests revealed participants in the Late Age Longer FTP cluster had the most youthful subjective age ($M = 2.65$, $SD = 0.75$, $p < .001$), which was significantly younger than all clusters except the Classic Late Age cluster ($M = 3.03$, $SD = 0.77$, $p = .14$). See Table 8 for all means and standard deviations.

A fifth one-way ANOVA suggested there were significant differences in health, $F(4, 342) = 54.30$, $p < .001$ between the age profiles. Levene's test was significant, $F(4, 342) = 3.34$, $p = .01$, indicating that equal variances cannot be assumed. Since equal variances cannot be assumed, a Welch (1951) F was conducted. Results indicated significant differences in health between the age profiles, $F(4, 141.96) = 57.47$, $p < .001$. Because unequal variances were found, post-hoc analyses were conducted using the Games-Howell post hoc test.

Contrary to Hypothesis 1, Games-Howell post hoc tests revealed participants in the Classic Young Age cluster ($M = 3.69$, $SD = 0.78$) had significantly better health than the Late Age Shorter FTP cluster ($M = 2.26$, $SD = 0.76$, $p < .001$). However, no significant differences existed between the Classic Young Age cluster and Classic Middle Age cluster ($M = 3.28$, $SD = 0.76$, $p = .01$), Late Age Longer FTP cluster ($M = 3.97$, $SD = 0.69$, $p = .10$), and Classic Late

Age cluster ($M = 3.22$, $SD = 0.93$, $p = .07$). Hypothesis 2 also was not supported, as the difference in health between the Classic Young Age cluster and Classic Middle Age cluster was in the hypothesized direction and approached statistical significance, but was not statistically significant ($p = .01$). Hypothesis 5 was not supported, as there was no significant difference in health between the Classic Middle Age cluster ($M = 3.28$, $SD = 0.76$) and the Classic Late Age; cluster ($M = 3.22$, $SD = 0.93$, $p = .99$). Hypothesis 6 was supported, as the Late Age Shorter FTP cluster had significantly worse health ($M = 2.26$, $SD = 0.76$) than all of the other four clusters ($p < .001$). Post hoc tests revealed participants in the Late Age Longer FTP cluster had the highest levels of self-reported health ($M = 3.97$, $SD = 0.69$), with significantly higher health scores than participants in the Classic Middle Age cluster ($M = 3.28$, $SD = 0.76$, $p < .001$), Late Age Shorter FTP cluster ($M = 2.26$, $SD = 0.76$, $p < .001$) and Classic Late Age cluster ($M = 3.22$, $SD = 0.93$, $p = .001$).

A sixth and final one-way ANOVA suggested there were significant differences in FTP, $F(4, 342) = 47.24$, $p < .001$ between the age profiles. Levene's test was not significant, $F(4, 342) = .20$, $p = .94$, indicating that equal variances existed. Since equal variances existed, Bonferroni post hoc tests controlling for familywise error rate were conducted. Contrary to Hypothesis 1, post hoc tests revealed participants in the Classic Early Age cluster ($M = 5.08$, $SD = 1.11$) had significantly longer FTP than participants in the Late Age Shorter FTP cluster ($M = 2.96$, $SD = 1.15$, $p < .001$) and Classic Late Age cluster ($M = 3.81$, $SD = 1.27$, $p < .001$), but that no significant differences existed between the Classic Early Age cluster and the Late Age Longer FTP cluster ($M = 5.06$, $SD = 1.18$, $p = 1.00$), nor the Classic Middle Age cluster ($M = 4.93$, $SD = 1.11$, $p = .96$). Hypothesis 2 was not supported, as there were no significant differences in FTP between the Classic Young Age cluster and Classic Middle Age cluster ($p = .93$). Supporting

Hypothesis 5, participants in the Classic Late Age cluster ($M = 3.81$, $SD = 1.27$) had significantly shorter FTP than participants in the Classic Middle Age cluster ($M = 4.93$, $SD = 1.11$, $p < .001$). Supporting Hypothesis 6, the Late Age Shorter FTP cluster ($M = 2.96$, $SD = 1.15$) had significantly shorter FTP than all four other clusters ($p < .001$). In addition, post hoc tests revealed participants in the Late Age Longer FTP cluster ($M = 5.06$, $SD = 1.18$) had significantly longer FTP compared to participants in the Late Age Shorter FTP cluster ($M = 2.96$, $SD = 1.15$, $p < .001$) and Classic Late Age cluster ($M = 3.81$, $SD = 1.27$, $p < .001$). Table 9 summarizes the major differences between the clusters on the age conceptualizations.

Principal Components Analysis. The next step in the analysis process was to conduct principal components analysis to determine if the twelve workplace motive scale scores loaded onto their hypothesized growth, social, and security motives. It was expected that GNS, development, and need for promotion would load onto a factor named growth motives. It was expected that need for affiliation, helping behavior, prestige, and need for recognition would load onto a factor named social motives. It was also expected compensation, need for autonomy, need for achievement, use of skills, and security would load onto a factor named security motives. Need for affiliation was not included as part of the principal components analysis due to its low reliability ($\alpha = .09$). Therefore, principal components analysis with oblique rotation was conducted on the eleven workplace motive scale scores. The Keyser-Meyer-Olkin measure of sampling adequacy was .85, above the recommended value of .60. Bartlett's' Test of Sphericity was significant ($\chi^2 (55) = 2027.46$, $p < .001$). The communalities of all eleven scale scores ranged from .49 to .86 (see Table 10). Therefore, it was determined to interpret the principal components analysis output with all eleven items. The principal components analysis revealed three factors with Eigen values greater than 1. The first factor had an Eigen value of 4.86 and

explained 44.2% of the variance. The second factor had an Eigen value of 1.57 and explained 14.3% of the variance. The third factor had an Eigen value of 1.03 and explained 9.4% of the variance. Together, the three factors explained 67.8% of the variance.

As seen in Table 11, GNS, development, need for security, and use of skills loaded onto a first factor. Helping behavior, prestige, need for recognition, need for achievement, and promotion loaded onto the second factor. Compensation and need for autonomy loaded onto the third factor. Given the loadings, Factor 1 most closely resembled the expect growth motives factor. Factor 2 most closely represented the expected social motives factor. Factor 3 most closely represented the expected security motives factor. Seven of the eleven scale scores loaded onto their hypothesized factor. Specifically, GNS and development correctly loaded onto the growth motives factor. Helping behavior, prestige, and need for recognition correctly loaded onto the social motives factor. Compensation and need for autonomy correctly loaded onto the security motives factor. The four motive scores that loaded onto unexpected factors included need for security and use of skills loading onto growth needs as opposed to security needs, and need for promotion and need for achievement loading onto social motives as opposed to growth motives and security motives, respectively.

Although it was expected that promotion would load onto the growth factor, GNS and development did load onto the growth factor. Furthermore, GNS and development account for 2/3 of the studies that have measured growth motives in the relationship between age and workplace motivation (Kooij et al., 2011; See Table 12). The three expected social motives of helping people, prestige, and need for recognition loaded onto the social motives factor. Although need for affiliation is the most typical measure studies have utilized to conceptualize social motives, the three motives that did load onto the social motives factor were the

operationalization of choice for nearly 60% of the studies that have measured social motives in the relationship between age and workplace motivation (Kooij et al., 2011; See Table 12). In addition, Kooij et al. (2011) noted the low reliability of the Steers and Braunstein (1976) need for affiliation measure ($\alpha = .53$). Although it was expected that need for security, need for achievement, and use of skills would load onto the security motives factor, the scale scores for compensation and need for autonomy did load onto the security motives factor. Even though need for achievement is the most typical way security motives are conceptualized, need for autonomy and compensation account for 45% of the studies that have measured security motives in the relationship between age and workplace motivation (Kooij et al., 2011; See Table 12).

To determine if the seven scale scores that loaded onto their correct workplace motive would load onto three factors, a second principal components analysis with oblique rotation was conducted with the scale scores of GNS, development, helping behavior, need for recognition, prestige, need for autonomy, and compensation. The Keyser-Meyer-Olkin measure of sampling adequacy was .69, above the recommended value of .60. Bartlett's Test of Sphericity was significant ($\chi^2(21) = 899.39, p < .001$). The communalities of the seven scale scores ranged from .22 for compensation to .88 for GNS. The principal components analysis revealed two factors with Eigen values greater than 1. The first factor had an Eigen value of 2.92 and explained 41.8% of the variance. The second factor had an Eigen value of 1.25 and explained 17.8% of the variance. Together, the two factors explained 59.6% of the variance. The scale scores of Prestige (.84), need for recognition (.75), helping behavior (.62), need for autonomy (.59), and compensation (.39) that were expected to load onto the social and security motives loaded onto the first factor. GNS (-.86) and development (-.87) loaded onto the second factor.

Even though the factor structure of the three workplace motives wasn't exactly as expected, it is worth noting that Kooij et al.'s (2011) age-work motivation meta-analysis that laid the foundation for which motives scales (e.g., need for autonomy) load to which factor (e.g., need for security) did not utilize psychometric work and factor analysis to develop their taxonomy. Instead, they incorporated SOC theory (P. B. Baltes & Baltes, 1990) and SEST theory (Carstensen, 1992) to develop the taxonomy linking workplace motives to their higher order factor. Therefore, it is not surprising that the original principal components analysis in this study found support for a three-factor solution, but not complete overlap with Kooij et al.'s (2011) taxonomy. Because the seven aforementioned scale scores loaded onto their hypothesized factors, scale scores were created for growth, social, and security motives by aggregating the seven variables accordingly. Specifically, a composite growth motive score was created using by averaging participants' scale scores on GNS and development. A composite social motive scale score was creating by averaging participants' scale scores on helping people, prestige, and need for recognition. A composite security motive scale score was created by averaging participants' scale scores on need for autonomy and compensation.

ANOVAs on Workplace Motives. The next step in the analysis process was to conduct three one-way ANOVAs, with cluster membership as the independent variable and growth, social, and security motives as the dependent variable, respectively. Given that partial support was found for Hypotheses 1, 2, 5, and 6, Hypotheses 8, 11, 13, and 14 (from Table 2) were tested. Given that all seven hypotheses in Table 2 were not supported, and that a cluster not hypothesized (Late Age Long FTP cluster from Table 8) emerged, I conducted post hoc analyses with the Bonferroni correction as opposed to planned comparisons, with the significance level at $p < .005$ to control for family wise error rate.

A one-way ANOVA suggested there were significant differences in growth motives, $F(4, 341) = 4.96, p = .001, \eta^2 = .055$, between the age profiles. Levene's test was not significant, $F(4, 341) = 1.18, p = .32$, indicating that equal variances existed. Since equal variances existed, Bonferroni post hoc tests controlling for familywise error rate were conducted. Contrary to Hypothesis 14, there was no significant difference in growth motives between the Classic Middle Age cluster ($M = 5.69, SD = 0.95$) and Classic Late Age cluster ($M = 5.71, SD = 0.90, p = .99$). However, post hoc tests revealed participants in the Late Age Shorter FTP cluster had significantly lower growth motives ($M = 5.14, SD = 1.12$) than participants in the Late Age Longer FTP cluster ($M = 5.81, SD = 0.95, p < .001$). In addition, participants in the Late Age Shorter FTP cluster had lower levels of growth motives than participants in the Classic Young Age cluster ($M = 5.63, SD = 0.98, p = .02$), Classic Middle Age cluster ($M = 5.69, SD = 0.95, p = .01$), and Classic Late Age cluster ($M = 5.71, SD = 0.90, p = .04$), although the results did not quite meet the significance value cutoff at $p < .005$. See Table 13 for all descriptive statistics and ANOVA results. In addition, see Table 14 for an overall summary of differences in the clusters on workplace motives.

A one-way ANOVA suggested there were significant differences in social motives, $F(4, 342) = 7.47, p < .001, \eta^2 = .080$, between the age profiles. Levene's test was not significant, $F(4, 342) = 0.34, p = .85$, indicating that equal variances existed. Contrary to Hypothesis 11, post hoc tests with the Bonferroni correction revealed no significant difference in social motives between the Classic Late Age cluster ($M = 4.08, SD = 0.84$) and Late Age Shorter FTP cluster ($M = 3.96, SD = 0.92, p = .98$) or Classic Middle Age cluster ($M = 4.48, SD = .04, p = .27$). Furthermore, post-hoc analyses revealed participants in the Classic Young Age cluster had significantly higher social motives ($M = 4.66, SD = 1.02$) than participants in the Late Age

Longer FTP cluster ($M = 4.06$, $SD = 0.96$, $p = .001$) and Late Age Shorter FTP cluster ($M = 3.96$, $SD = 0.92$, $p < .001$). Contrary to Hypothesis 14, a one-way ANOVA suggested there were no significant differences in security motives, $F(4, 341) = 0.06$, $p = .99$, $\eta^2 = .000$, between the age profiles. See Table 13 for all descriptive statistics and ANOVA results. In addition, see Table 14 for an overall summary of differences in the clusters on workplace motives.

Hypothesis 13 was that clusters with similar levels of FTP will have no difference in social motives, regardless of chronological age, in line with SEST. Since there were no significant differences between the Classic Young Age cluster, Classic Middle Age cluster, and Late Age Longer FTP Profile, Hypothesis 13 was tested with Clusters 1-3. Supporting Hypothesis 13 and SEST, results suggested there was no significant difference in social motives between the Late Age Longer FTP cluster ($M = 4.06$, $SD = 0.96$) and the Classic Middle Age cluster ($M = 4.48$, $SD = 1.04$, $p = .06$), nor between the Classic Young Age cluster ($M = 4.66$, $SD = 1.02$) and Classic Middle Age cluster ($M = 4.48$, $SD = 1.04$, $p = .78$). However, there was a significant difference between the Late Age Longer FTP cluster ($M = 4.06$, $SD = 0.96$) and Classic Young Age cluster ($M = 4.66$, $SD = 1.02$) in social motives, with the Classic Young Age cluster displaying significantly higher social motives than participants in the Late Age Longer FTP cluster, $p = .001$. Therefore, Hypothesis 13 was partially supported.

To ensure that important differences between the age profiles on the workplace motives (i.e., promotion, need for achievement, use of skills, security) that didn't load onto their expected higher order factor, four one-way ANOVAs with age profile as the independent variable and each of the aforementioned motives as the dependent variable were conducted. A one-way ANOVA suggested there were significant differences in promotion, $F(4, 341) = 11.99$, $p = <.001$, $\eta^2 = .123$, between the age profiles. Levene's test was not significant, $F(4, 341) = 0.53$,

$p = .72$, indicating that equal variances existed. Post hoc analyses revealed participants in the Classic Young Age cluster ($M = 4.98$, $SD = 1.01$) and Classic Middle Age cluster ($M = 4.72$, $SD = 1.27$) had significantly higher promotion motives than participants in the Late Age Shorter FTP cluster ($M = 3.80$, $SD = 1.27$, $p < .001$). Participants in the Classic Young Age cluster also had higher promotion motives than those in the Classic Late Age cluster ($M = 4.09$, $SD = 1.06$, $p = .001$).

A one-way ANOVA suggested there were significant differences in need for achievement, $F(4, 341) = 8.24$, $p < .001$, $\eta^2 = .081$, between the age profiles. Levene's test was not significant, $F(4, 341) = 1.43$, $p = .22$, indicating that equal variances existed. Post hoc analyses revealed participants in the Late Age Shorter FTP cluster had significantly lower need for achievement ($M = 4.31$, $SD = 1.06$) than those in the Classic Young Age cluster ($M = 5.05$, $SD = 0.94$), Classic Middle Age Cluster ($M = 5.15$, $SD = 1.11$), and Late Age Longer FTP Cluster ($M = 5.07$, $SD = 0.98$), $p < .001$.

A one-way ANOVA suggested there were significant differences in need for achievement, $F(4, 341) = 8.24$, $p < .001$, $\eta^2 = .081$, between the age profiles. Levene's test was not significant, $F(4, 341) = 1.43$, $p = .22$, indicating that equal variances existed. Post hoc analyses revealed participants in the Late Age Shorter FTP cluster had significantly lower need for achievement ($M = 4.31$, $SD = 1.06$) than those in the Classic Young Age cluster ($M = 5.05$, $SD = 0.94$), Classic Middle Age Cluster ($M = 5.15$, $SD = 1.11$), and Late Age Longer FTP Cluster ($M = 5.07$, $SD = 0.98$), $p < .001$.

Two separate one-way ANOVAs suggested there were not significant differences in use of skills, $F(4, 341) = 2.04$, $p = .09$, $\eta^2 = .023$ or need for security, $F(4, 342) = .67$, $p = .62$, $\eta^2 = .007$ between the age profiles.

Ad Hoc Tests. As explained in the introduction, there were four main types of ad hoc tests addressed. First, I examined the extent to which participants' subjective age discrepancy score could help explain differences between the different age conceptualization profiles. Second, I examined the extent to which scores on the ACCI, which allow individuals to recycle back to earlier career stages, could add utility to the understanding of the age profiles. Third, I examined the extent to which there were differences between the clusters on the two FTP dimensions of focus on opportunities and focus on limitations. Fourth, I examined whether significant differences existed on the life stage variables (e.g., marital status) between the different age profiles.

In regards to the subjective age discrepancy score, a one-way ANOVA suggested there were significant differences in subjective age discrepancy score, $F(4, 342) = 34.48, p < .001$ between the age profiles. Levene's test was significant, $F(4, 342) = 7.06, p < .001$, indicating that equal variances cannot be assumed. Since equal variances cannot be assumed, a Welch (1951) F was conducted. Results indicated significant differences in subjective age discrepancy score between the age profiles, $F(4, 134.24) = 51.94, p < .001$. Because unequal variances were found, post-hoc analyses were conducted using the Games-Howell post hoc test.

Games-Howell post hoc tests revealed participants in the Late Age Longer FTP cluster ($M = -10.80, SD = 6.43$) had significantly more youthful subjective age discrepancy scores than participants in the Classic Young Age cluster ($M = -3.67, SD = 7.79, p < .001$), Classic Middle Age cluster ($M = -3.79, SD = 7.80, p < .001$), and Classic Young Age cluster ($M = 0.21, SD = 3.85, p < .001$). Post hoc analyses revealed participants in the Classic Young Age cluster ($M = 0.21, SD = 3.85$) had significantly less youthful subjective age discrepancy scores relative to all other clusters ($p < .001$). See Table 15 for all descriptive statistics and ANOVA results. See

Table 16 for an overall summary of the differences in subjective age discrepancy scores between the clusters.

In regards to ACCI scores, each participant was categorized as belonging to the Exploration, Establishment, Maintenance, or Disengagement career stage, based upon which of their four composites had the highest score. Four composite variables were formed for each of the scales. Reliabilities were all four scales were above .80, ranging from $\alpha = .81$ for disengagement to .90 for exploration. Results indicated that 85 participants had a same score for two or more scales, 35 were in the exploration stage, 25 were in the establishment stage, 25 were in the maintenance stage, and 178 were in the disengagement stage. Removing the 85 participants with the same score for two or more scales from the denominator, 13% of participants were in the exploration stage, 10% of participants were in the establishment stage, 10% of participants were in the maintenance stage, and 68% of participants were in the disengagement stage. Given 40% of the study sample was over the age of 50 years, this finding is not at all surprising. Because such a high number of participants were in the disengagement stage, no further analyses were conducted with the ACCI scores.

The third ad hoc analysis examined the extent to which there were differences between the clusters on the two FTP dimensions of focus on opportunities and focus on limitations. A principal components analysis with oblique rotation on the ten FTP items was conducted. The Keyser-Meyer-Olkin measure of sampling adequacy was .92, above the recommended value of .60. Bartlett's' Test of Sphericity was significant ($\chi^2 (45) = 3092.31, p < .001$). The communalities of all ten FTP items ranged from .69 to .87. Therefore, it was determined to interpret the principal components analysis output with all ten FTP items. The principal components analysis revealed two factors with Eigen values greater than 1, explaining 64% and

15% of the variance, respectively. The two factors explained 78.4% of the variance. FTP items 1-7 (see Appendix G) all loaded onto the first factor with loadings above .70. This first factor, in line with previous research (e.g., Cate & John, 2007), is called Focus on Opportunities. The reverse-coded items 8-10 (see Appendix G) loaded onto the second factor with loadings above .75. This second factor, in line with previous research (e.g., Cate & John, 2007), is called Focus on Limitations. Composite scores were created for these two FTP scales.

A one-way ANOVA suggested there were significant differences in focus on opportunities, $F(4, 342) = 48.29, p < .001$ between the age profiles. Levene's test was not significant, $F(4, 342) = .50, p = .74$, indicating that equal variances existed. Since equal variances existed, Tukey HSD post hoc tests controlling for familywise error rate were conducted. The results mirrored that of the one-way ANOVA on overall FTP described earlier. Tukey's HSD post hoc tests revealed participants in the Classic Young Age cluster ($M = 5.45, SD = 1.22$), Classic Middle Age ($M = 5.20, SD = 1.19$), and older chronological age profile of Cluster 1 (Late Age Longer FTP; $M = 5.31, SD = 1.26$) had significantly higher Focus on Opportunities FTP than participants in the Late Age Shorter FTP cluster ($M = 3.03, SD = 1.36, p < .001$) and Classic Late Age cluster ($M = 3.91, SD = 1.45, p < .001$). See Table 15 for all descriptive statistics and ANOVA results.

A one-way ANOVA suggested there were significant differences in focus on limitations, $F(4, 342) = 15.44, p < .001$ between the age profiles. Levene's test was significant, $F(4, 342) = 2.71, p = .03$, indicating that equal variances cannot be assumed. Since equal variances cannot be assumed, a Welch (1951) F was conducted. Results indicated significant differences in focus on limitations between the age profiles, $F(4, 145.27) = 20.01, p < .001$. Because unequal variances were found, post-hoc analyses were conducted using the Games-Howell post hoc test.

Games-Howell post hoc tests revealed participants in the Late Age Longer FTP cluster ($M = 4.47$, $SD = 1.52$), Classic Young Age cluster ($M = 4.22$, $SD = 1.61$) and Classic Middle Age cluster ($M = 4.31$, $SD = 1.57$) had significantly lower levels of focus on limitations than participants in the Late Age Shorter FTP cluster ($M = 2.80$, $SD = 1.18$, $p < .001$). See Table 15 for all descriptive statistics and ANOVA results. See Table 15 for all descriptive statistics and ANOVA results. See Table 16 for an overall summary of the differences in focus on opportunities and focus on limitations between the clusters.

The fourth ad hoc analysis examined whether significant differences existed on the life stage variables (e.g., marital status) between the different age profiles and workplace motivation. Three one-way ANOVAs found no significant differences in growth motives, $F(4, 342) = 1.29$, $p = .27$, social motives, $F(4, 343) = 0.31$, $p = .87$, or security motives $F(4, 342) = 1.36$, $p = .25$, based upon marital status. To determine the impact of caring for dependents and other family members on workplace motivation, the number of dependents a participant cared for and number of other family members (e.g., spouse, parent) a participant cared for were summed to form an overall number of individuals the participant was responsible for providing for. Next, I examined correlations between the three motives and the overall number of individuals cared for. Results suggested there was a positive correlation between the number of individuals cared for and social motives ($r = .18$, $p = .001$), but no relationship between the number of individuals cared for and growth motives ($r = .06$, $p = .25$) or security motives ($r = .02$, $p = .71$).

CHAPTER 5: DISCUSSION

The purpose of this dissertation was to bridge gaps in the literature by assessing each of the conceptualizations of age described by Kooij et al. (2008, 2011), identify age profiles or clusters with all age conceptualizations, and link those profiles to motivation. Contrary to hypotheses (see Table 1), hierarchical cluster analysis revealed a five-cluster solution as opposed to seven-cluster solution. However, of the five clusters found (see Table 8), four of the five clusters corresponded to the hypothesized clusters in Table 1, including the Classic Young Age Profile (Cluster 1 in Table 1; Cluster 2 in Table 8), Classic Middle Age Profile (Cluster 2 in Table 1; Cluster 3 in Table 8), Classic Late Age Profile (Cluster 5 in Table 1; Cluster 5 in Table 8), and Late Age Shorter FTP Profile (Cluster 6 in Table 1; Cluster 4 in Table 8). Therefore, no support was found for Hypotheses 3, 4, and 7, and I tested to see if significant differences were found between the profiles in age conceptualizations for Hypotheses 1, 2, 5, and 6.

Generally, no support was found for Hypothesis 1. Although participants in the Classic Young Age cluster had the youngest chronological age of any cluster, this profile did not have the greatest health, lowest number of dependents, longest FTP, and least youthful subjective age of any cluster, as hypothesized. Hypothesis 2 was partially supported. Participants in the Classic Middle Age cluster had significantly higher chronological age, organizational age, and more dependents than the Classic Young Age cluster. Although the difference in subjective age between the profiles was not significant ($p < .01$) at the $p < .005$ level, it approached significance. There was no difference between the two profiles in FTP. Hypothesis 5 was also partially supported. Participants in the Classic Late Age profile had significantly greater chronological age, organizational age, and shorter FTP relative to the Classic Middle Age cluster, although the difference in health was not significant. Although the difference in

subjective age approached significance ($p = .006$), the finding was not significant when controlling for familywise error rate ($p < .005$). Hypothesis 6 was completely supported, as participants in the Late Age Shorter FTP cluster had less youthful subjective age than the Classic Late Age cluster, and the worst physical health and shortest FTP of any cluster.

Next, I tested Hypotheses 11, 13, and 14. Hypothesis 8 was not tested because no support was found for Hypothesis 1. Hypotheses 9, 10, and 12 were not supported or tested because the Hypothesized Clusters 3, 4, and 7 (see Table 1) were not supported by the cluster analysis. Contrary to Hypotheses 11, there was no significant difference in social motives between the Late Age Shorter FTP cluster and Classic Late Age cluster. Hypothesis 14, that the Classic Late Age cluster would have significantly lower growth and social motives, but higher security motives than the Classic Young Age cluster and Classic Middle Age cluster was also not supported. Hypothesis 13, that regardless of age, clusters with similar levels of FTP would have no differences in FTP was partially supported, as there was a significant difference between the Late Age Shorter FTP cluster and Classic Young Age cluster in social motives.

Furthermore, post hoc analyses revealed interesting differences between the age profiles in endorsement of growth and social motives. Specifically, The Late Age Longer FTP cluster endorsed higher levels of growth motives than the Late Age Shorter FTP cluster. This finding is actually supported by SOC theory, which posits that individuals utilize SOC strategies to minimize age-related decreases in resources and maximize age-related gains. Even though the two aforementioned clusters have similar levels of chronological age, they have significant differences in health, subjective age, and FTP. Since the Late Age Longer FTP cluster views their future as long, results suggest participants in this cluster are more interested on achieving goals that maximize their gains, whereas participants in the Late Age Shorter FTP cluster do not

have the same resources to put towards growth motives, as their resources may be strained to other areas of their lives, due to poorer health and FTP. This finding also supports SEST, which predicts individuals with longer FTP will focus on fulfilling knowledge-related goals and motives like growth motives, regardless of age.

The finding that there are differences in growth motives between clusters with similar chronological ages illustrates the power of using the person-centered approach as opposed to variable-centered approach, and has large implications for organizations. Indeed, this finding suggests employees' health, subjective age, and FTP plays an important role in one's motivation at older chronological ages. With a full understanding of the legal issues and challenges, organizations should examine ways to incorporate FTP and subjective age into discussions of succession planning and career development initiatives. A research stream that can help enable the aforementioned application to organizational HR activities (e.g., succession planning) is to examine the effectiveness of organizational interventions (e.g., team building, technostructural, flextime) based upon age conceptualizations and workplace motives. Results from this study suggest that employees at older chronological ages with longer FTP and great health would be significantly more interested in technostructural interventions like job enlargement and job enrichment (see Zabel & Baltes, 2015 for a review) relative to employees at older chronological ages with shorter FTP and poorer health. Furthermore, since the Late Age Longer FTP cluster endorsed higher growth motives than the Late Age Shorter FTP cluster, but no significant difference existed in security motives, results suggest employees with later chronological age, poorer health, and shorter FTP (i.e., Late Age Shorter FTP cluster) may be more likely to retire at an earlier age relative to their counterparts in Cluster 1. These are important areas for future

research. If that hypothesis was supported, it would have large impacts on succession planning, training and learning, and career development initiatives within organizations.

Post hoc tests also found that the Classic Young Age cluster had significantly higher social motives than the Late Age Longer FTP cluster and Late Age Shorter FTP cluster. Given the Late Age Longer FTP cluster and Late Age Shorter FTP cluster have similar chronological ages but very different FTP, subjective age, and health, the pattern of results suggests a main effect of chronological age on social motives, such that as individuals age chronologically, they endorse lower level of social motives, regardless of other conceptualizations of age. Interestingly, there was very little difference between the Classic Young Age cluster and Classic Middle Age in social motives, suggesting the decrease in social motives tends to happen as individuals move from middle to late chronological age.

Practical Implications and Future Research

There are several practical implications for both applied practitioners and academic researchers alike. Findings from this study suggest that the importance of examining multiple conceptualizations of age simultaneously increases with chronological age. Indeed, supporting SOC and SEST, results from this study suggest at later chronological ages, employees with more positive health, youthful subjective age, and longer FTP have significantly higher growth motives than older workers with less positive health, less youthful subjective age, and shorter FTP. Contrary to stereotypes about older workers, results from this study suggest older workers are motivated to fulfill growth motives if they have the resources available to focus on growth motives, which may be largely impacted by one's perception of health. This means that organizations should consider the effectiveness of utilizing workplace interventions that fulfill growth motives like job enlargement or job enrichment (see Zabel & Baltes, 2015 for a review)

strategically for older workers who may be most motivated to fulfill growth managements. The reality is that the variables that are most important to determining those older workers who may be most motivated to fulfill growth motives may be difficult for organizations to obtain. While most organizations have some type of health-related data on their employees, it is often hard to get access to that data, and subjective age and FTP would typically not be variables organizations have access to. These limitations withstanding, results suggest innovative Human Resource organizations should find ways to incorporate findings from this study into their overall talent management strategy, especially since the numbers of older workers will only increase for decades to come. Similarly, researchers should examine the extent to which workplace interventions that may be more likely than others to fulfill growth motives (e.g., job enlargement, job enrichment) are in fact preferred by older workers fitting the Later Age Longer FTP profile, and the effectiveness of these types of interventions with this profile relative to their effectiveness with the other four clusters.

Findings from this study also suggest that employees with low chronological ages have higher social motives than employees at high chronological ages, regardless of other conceptualizations of age. Indeed, the three late age profiles had similar levels of social motives, suggesting that the decrease in social motives seen across the lifespan is mainly a function of chronological age and not the profiles that emerged based upon all conceptualizations of age. These findings suggest that workplace interventions that fulfill social motives like team building are more applicable to younger workers relative to older workers. Future research should examine if this is the case, as well as if the effectiveness of team building interventions changes based upon the chronological age distribution of team members (e.g., heterogeneous vs. homogenous). The latter point is especially important, given that older workers and younger

workers will continue to collaborate more and more on work teams for decades to come. These results are also practical to organizations. Indeed, there may be simple things organizations can do to fulfill the social motives of younger workers, ranging from setting up employee resource groups specifically for younger workers, setting up monthly happy hours younger workers can go to in order to network, and career development programs where social interaction is required (e.g., mentoring sponsorship) specifically for younger workers. Future research should also examine the impact of different generations or cohorts on the development of clusters, and the relationship of those clusters to workplace motives. With such an emphasis on generational differences research in the academic literature and popular press, an understanding of the types of clusters that form based on the age conceptualizations for the major generational cohorts (e.g., Baby Boomers, Generation X, and Millennials), and the relationships of those clusters to workplace motivation, would help academic researchers and applied practitioners alike understand if it is beneficial to examine age conceptualizations with the added lens of generational cohorts.

Limitations

One limitation of this design is that it is cross-sectional as opposed to longitudinal in nature. Although certain age conceptualizations like chronological age and number of dependents change rather slowly over long periods of time, other age conceptualizations like health and FTP change more often over time. Longitudinal studies would be especially adept at measuring these differences over time. Another limitation was measuring growth, social, and security motives, most notably security motives. Although the original principal components analysis suggested a three-factor solution, examination of the rotated matrix suggested four scale scores were loading onto the wrong factor. A second principal components analysis with only the

seven scale scores suggested only a two-factor solution. Because I was interested in creating composites for growth, social, and security motives and the original principal components analysis recommended a three-factor solution, I created three composite variables with the seven scale scores. This process entailed removing need for achievement and need of promotion from forming composites, even though these are two variables that are often used in the study of age and work motives. As I explained earlier, the variables I formed composites with do account for approximately 50% of the studies that examine the relationship between age and work motivation (Kooij et al., 2011). Furthermore, Kooij et al. (2011) did not utilize principal components analysis when forming their taxonomy of growth, social, and security motives. Therefore, creating a taxonomy of growth, social, and security motives, or a different factor solution with a different number of factors, and validating the findings is another area for future research.

A third limitation was the use of only a one-item health scale to measure functional age, as opposed to objective indicators of health or other variables used to measure functional age. Defined in the literature as “based on a worker’s performance, and recognizes that there is a great variation in individual abilities and functioning through various biological and psychological changes (Kooij et al., 2008, p. 366), functional ages is typically measured using variables like health, cognitive abilities, and job performance. Future studies should examine the extent to which more objective indicators of health like blood pressure or body mass index can be used in conjunction with the subjective measure of health utilized in this study, to ensure one’s full spectrum of health is being properly measured. Furthermore, future studies should examine how other measures of functional age like cognitive ability and job performance relate with other conceptualizations of age to impact workplace motives. This is especially relevant

since changes in job performance and cognitive ability map on well to the SOC framework that was used to develop hypotheses in the current study. A final limitation was that over half the study sample did not have dependent children living with them, and that a similar lack of variance existed on the number of participants who were responsible for caring for other adults that were not dependents (e.g., eldercare). This lack of variance in life-span age conceptualizations made it difficult to find any differentiation between the clusters in terms of the life-span conceptualizations, and may be one reason why only one middle age cluster was found as opposed to the hypothesized three. Future studies should oversample individuals at both older middle and chronological ages (similar to this study), but also oversample individuals having dependent children living with them to ensure the ability to find age conceptualization profiles that are impacted by number of dependents, and age of youngest child, assuming those profiles. Given this study found only one cluster with high organizational age, future studies should also try to achieve a more even distribution of organizational age, and consider how industry tenure may be used strategically in the analysis process to compare and contrast the contribution of industry tenure relative to job tenure and organizational tenure.

Final Conclusions

This dissertation addresses several limitations of the previous literature. First, this is the only known study to examine all conceptualizations of age recommended by Kooij et al. (2008, 2011) simultaneously in the same study. Second, this is the first known study to examine how all conceptualizations of age are related to three major types of workplace motivation, including growth, social and security motives. Third, this study uses a person-centered approach as opposed to variable-centered approach to examine, holistically, how individuals are differently motivated at work based upon their age profile. This first study that examined the link between

all age conceptualizations and workplace motivation will enrich the literature in both the study of aging at work and workplace motivation area, and answers several calls to research all conceptualizations of age.

Table 1: Descriptions of Hypothesized Age Conceptualization Clusters

	Cluster						
	1	2	3	4	5	6	7
Name	Classic Young Age	Classic Middle Age	Recycled Career Middle Age	No Dependents Middle Age	Classic Late Age	Late Age Shorter FTP	Late Age with Dependents
Profile	Low chronological and organizational age, older/same subjective age, great physical health, low number dependents, longest FTP	Medium chronological age and organizational age, younger subjective age, good physical health, average of two dependents, and average FTP.	Medium chronological age, low organization age, younger subjective age, good physical health, average of two dependents, and average FTP.	Medium chronological age and organizational age, younger subjective age, good physical health, no dependents, and average FTP.	High chronological age and organizational age, much younger subjective age, average physical health, zero dependents and shorter FTP.	High chronological age and organizational age, younger subjective age, below average physical health, zero dependents and shortest FTP.	High chronological age and organizational age, much younger subjective age, average physical health, at least 1 dependent and average FTP.
Description	This group will have the youngest chronological age of any cluster. In addition, this group will report the greatest physical health, lowest number of dependents, longest FTP, and oldest subjective age of any cluster.	This group will have higher chronological and organizational age, worse physical health, more dependents, shorter FTP, and more youthful subjective age than Cluster 1.	This group will have significantly lower organizational age than Cluster 2. Their organizational age will more closely resemble Cluster 1 than Cluster 2.	This group will have significantly fewer dependents than Cluster 2. Their average number of dependents will more closely resemble Cluster 1 than Cluster 2.	This group will have higher chronological and organizational age, worse physical health, shorter FTP, and more youthful subjective age than Cluster 2.	This group will have the worst physical health and most Shorter FTP of any cluster. In addition, this group will have less youthful subjective age than Cluster 5.	This group will have a higher number of dependents than Clusters 5 or 6.

Table 2: Hypothesized Relationships of Clusters to Growth, Social, and Security Motives

Motive	Hypothesis 8	Hypothesis 9	Hypothesis 10	Hypothesis 11	Hypothesis 12	Hypothesis 13	Hypothesis 14
Growth	Highest for Cluster 1	Cluster 3 is higher than Cluster 2	Cluster 4 is higher than Clusters 2 and 3		Cluster 7 is higher than Clusters 5 and 6		Lower for Cluster 5 relative to Clusters 1 and 2
Social	Highest for Cluster 1	Cluster 3 is higher than Cluster 2		Cluster 6 is lower than Cluster 5.		Clusters with similar levels of FTP will have no difference.	Lower for Cluster 5 relative to Clusters 1 and 2
Security	Lowest for Cluster 1		Cluster 4 is lower than Clusters 2 and 3		Cluster 7 is higher than Clusters 5 and 6		Higher for Cluster 5 relative to Cluster 1 and 2

Table 3: Chronological Age Distribution of the U.S. Workforce

Age Range	% of U.S. Workforce
16-19	3.1%
20-24	9.5%
25-29	10.8%
30-34	11.0%
35-39	10.4%
40-44	10.8%
45-49	10.9%
50-54	11.4%
55-59	9.9%
60-64	6.8%
65-69	3.1%
70-74	1.3%
75+	1.0%

Table 4: Chronological Age Distribution of the Study Sample

Age Range	% of Study Sample
16-19	0.0%
20-24	2.0%
25-29	8.1%
30-34	12.3%
35-39	12.1%
40-44	14.4%
45-49	9.1%
50-54	12.4%
55-59	14.9%
60-64	10.1%
65-69	4.0%
70-74	0.6%
75+	0.0%

Table 5: Means and Standard Deviations of Study Variables

Variable	Range	α	M	SD
Chronological Age	21-71	—	45.70	12.20
Subjective Age	1-7	.71	3.46	0.99
Subjective Age Discrepancy ^a (48.5) – 16.75		.89	-5.11	7.93
Organizational Age	0-58	.89	9.31	8.12
Future Time Perspective	1-7	.93	4.50	1.43
Health	1-5	—	3.34	0.97
Number of Dependents	0-7	—	0.91	1.19
Need for Affiliation	1-7	.09	4.07	0.70
Need for Autonomy	1-7	.65	4.06	1.07
Need for Achievement	1-7	.73	4.91	1.03
Need for Security	1-7	.87	5.73	0.86
Need for Recognition	1-7	.66	4.20	1.41
Helping Behavior	1-7	.85	4.23	1.05
Prestige	1-7	.92	4.37	1.22
Need for Promotion	1-7	.91	4.45	1.22
Use of Skills	1-7	.86	5.77	1.07
Growth Need Strength	1-7	.89	5.59	1.03
Development	1-7	.88	5.61	1.06
Compensation	1-7	—	5.90	1.18

Note: ^a Composite Subjective Age – Chronological Age

Table 6: Correlations Between Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Chronological Age	—												
2. Subjective Age	-.29***	—											
3. Subjective Age Discrepancy ^a	-.47***	.81***	—										
4. Organizational Age	.43***	-.08	-.18**	—									
5. Future Time Perspective	-.33***	-.16**	-.08	-.10	—								
6. Health	-.13*	-.29***	-.18**	-.03	.44***	—							
7. Number of Dependents	-.27***	.12*	.08	-.03	.16**	.03	—						
8. Need for Affiliation	-.05	-.02	-.03	.00	.09	.12*	.08	—					
9. Need for Autonomy	-.03	-.08	-.11*	.01	-.05	.00	.01	-.38***	—				
10. Need for Achievement	-.08	-.14**	-.09	.06	.35***	.28***	.14*	.05	.24**	—			
11. Need for Security	.00	-.01	-.02	.01	.15**	.09	.09	.05	.03	.43***	—		
12. Need for Recognition	-.26***	.06	.13*	-.07	.19***	.15**	.13*	.09	.13*	.38***	.28***	—	
13. Helping Behavior	-.13*	.09	.06	.01	.13*	.09	.08	.35***	.05	.23***	.20***	.43***	—

Note: ^a Composite Subjective Age – Chronological Age
 * $p < .05$, ** $p < .01$, *** $p < .001$

	1	2	3	4	5	6	7	8	9	10	11	12	13
14. Prestige	-.23***	.09	.08	-.05	.23***	.20***	.16**	.04	.26***	.63***	.34***	.61***	.45***
15. Need for Promotion	-.38***	-.02	.07	-.07	.42***	.25***	.13*	.02	.20***	.62***	.36***	.59***	.35***
16. Use of Skills	.05	-.03	-.05	.07	.25***	.16**	.08	.05	-.02	.43***	.54***	.25***	.20***
17. Growth Need Strength	-.03	-.10	-.08	.05	.35***	.23***	.05	.09	.01	.52***	.55***	.37***	.27***
18. Development	-.03	-.14*	-.12*	.05	.38***	.22***	.04	.10	-.01	.49***	.50***	.36***	.27***
19. Compensation	.01	.00	-.01	.03	.07	.11	.07	-.01	.10	.20***	.47***	.27***	.14**

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

	14	15	16	17	18	19
14. Prestige	—					
15. Need for Promotion	.67 ^{***}	—				
16. Use of Skills	.30 ^{***}	.38 ^{***}	—			
17. Growth Need Strength	.36 ^{***}	.55 ^{***}	.78 ^{***}	—		
18. Development	.34 ^{***}	.53 ^{***}	.70 ^{***}	.88 ^{***}	—	
19. Compensation	.26 ^{***}	.24 ^{***}	.34 ^{***}	.29 ^{***}	.21 ^{***}	—

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 7: Agglomeration Schedule for Hierarchical Cluster Analysis

Stage	Cluster 1	Cluster 2	Coefficients	Cluster 1	Cluster 2	Next Stage
1	360	383	.013	0	0	48
2	48	157	.040	0	0	15
3	121	400	.074	0	0	39
4	90	271	.119	0	0	163
5	145	391	.172	0	0	134
6	97	237	.225	0	0	11
7	232	354	.289	0	0	150
8	290	367	.356	0	0	28
9	158	222	.426	0	0	52
10	42	395	.503	0	0	95
.....
.....
.....
337	25	37	903.617	333	331	342
338	35	84	947.212	330	328	344
339	34	48	993.362	329	314	341
340	24	29	1044.586	334	336	345
341	26	34	1125.760	327	339	343
342	22	25	1224.618	335	337	344
343	26	30	1357.593	341	332	345
344	22	35	1540.342	342	338	346
345	24	26	1734.901	340	343	346
346	22	24	2074.823	344	345	0

Table 8: ANOVA Results Indicating Differences Between Clusters on Age Conceptualizations

Cluster	1	2	3	4	5	ANOVA Statistics
	Late Age Longer FTP	Classic Young Age	Classic Middle Age	Late Age Shorter FTP	Classic Late Age	
Age Concept	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>
Chronological Age	51.7 (8.9) ^{2,3,5}	32.5 (6.4) ^{1,3,4,5}	41.4 (8.4) ^{1,2,4,5}	51.5 (9.6) ^{2,3,5}	59.8 (6.1) ^{1,2,3,4}	$F_{(4, 342)} = 109.98$ $\eta^2 = .562$
Subjective Age	2.7 (0.8) ^{2,3,4}	4.0 (0.7) ^{1,5}	3.6 (0.8) ¹	3.9 (1.0) ^{1,5}	3.0 (0.8) ^{2,4}	$F_{(4, 342)} = 39.40$ $\eta^2 = .315$
Organizational Age	8.1 (5.7) ^{2,5}	5.2 (4.1) ^{1,3,5}	9.4 (5.6) ^{2,5}	7.1 (5.0) ⁵	26.4 (8.4) ^{1,2,3,4}	$F_{(4, 342)} = 101.22$ $\eta^2 = .542$
Health	4.0 (0.7) ^{3,4,5}	3.7 (0.8) ⁴	3.3 (0.8) ^{1,4}	2.3 (0.8) ^{1,2,3,5}	3.2 (0.9) ^{1,4}	$F_{(4, 342)} = 54.30$ $\eta^2 = .388$
Future Time Perspective	5.1 (1.2) ^{4,5}	5.1 (1.1) ^{4,5}	4.9 (1.1) ^{4,5}	3.0 (1.2) ^{1,2,3,5}	3.8 (1.3) ^{1,2,3,4}	$F_{(4, 342)} = 47.24$ $\eta^2 = .355$
Number of Dependents	0.3 (0.5) ^{2,3}	0.8 (0.8) ^{1,3}	2.8 (0.9) ^{1,2,4,5}	0.4 (0.7) ³	0.4 (0.7) ³	$F_{(4, 342)} = 136.54$ $\eta^2 = .614$
<i>N</i>	87	87	67	70	36	347
% of Total <i>N</i>	25.1%	25.1%	19.3%	20.2%	10.4%	100%
Chronological Age Range	30-68	21-49	26-71	25-68	44-70	

Note. Games-Howell post hoc tests were utilized for chronological age, organizational age, health and number of dependents. Superscripts indicate means in a given row are statistically different from the cluster identified by the subscript at the $p < .005$ level.

Table 9: Summary of ANOVA Results Indicating Differences Between Clusters on Age Conceptualizations

	Late Age Longer FTP (1)	Classic Young Age (2)	Classic Middle Age (3)	Late Age Shorter FTP (4)	Classic Late Age (5)
Chronological Age		Lowest of any cluster	Lower than Clusters 1 and 4		Highest of any cluster
Subjective Age	More youthful than Cluster 2, 3, and 4				More youthful than Clusters 2 and 4
Organizational Age		Lower than 1 and 3			Highest of any cluster
Health	Better than 3 and 5			Poorest of any cluster	
Future Time Perspective				Shortest of any cluster	Shorter than Cluster 1, 2, and 3
Number of Dependents		Higher than Cluster 1	Highest of any cluster		

Table 10: Communalities

Scale	Communalities
GNS	.864
Development	.806
Prestige	.778
Use of Skills	.771
Need for Promotion	.716
Need for Security	.637
Need for Recognition	.626
Need for Autonomy	.623
Need for Achievement	.582
Compensation	.560
Helping Behavior	.494

Table 11: Factor Loadings of Principal Components Analysis with Oblique Rotation

Scale	Factor 1	Factor 2	Factor 3
GNS	-.854		
Development	-.801		
Use of Skills	-.885		
Need for Security	-.726		
Prestige		.813	
Helping Behavior		.717	
Need for Recognition		.774	
Need for Promotion		.718	
Need for Achievement	-.327	.507	
Need for Autonomy			.746
Compensation	-.454		.571

Table 12: Kooij et al. (2011) Age-Workplace Motives Conceptualization of Motives

Content of Work-Related Motive	Motive	<i>n</i> (number of studies)
Growth	Development/Challenge ^a	26
	Growth Need Strength ^a	
	Promotion/Advancement	13
Social	Need for Affiliation/Working with People ^b	25
	Helping people	15
	Prestige/Status	12
	Recognition	9
Security	Need for Achievement	41
	Need for Autonomy	34
	Compensation/Benefits	24
	Need for Security	17
	Use of Skills	14

Table 13: ANOVA Results Indicating Differences Between Clusters on Workplace Motives

Cluster	1	2	3	4	5	
	Late Age Longer FTP	Classic Young Age	Classic Middle Age	Late Age Shorter FTP	Classic Late Age	ANOVA Statistics
Age Concept	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>
Growth Motives	5.81 (0.95) ⁴	5.63 (0.98)	5.69 (0.95)	5.14 (1.12) ¹	5.71 (0.90)	$F_{(4, 341)} = 4.96$ $\eta^2 = .055$
Social Motives	4.06 (0.96) ²	4.66 (1.02) ^{1,4}	4.48 (1.04)	3.96 (0.92) ²	4.08 (0.84)	$F_{(4, 342)} = 7.47$ $\eta^2 = .080$
Security Motives	5.01 (0.80)	4.99 (0.92)	4.97 (0.86)	4.97 (0.73)	4.93 (0.91)	$F_{(4, 341)} = 0.06$ $\eta^2 = .000$
<i>N</i>	87	87	67	70	36	347
% of Total <i>N</i>	25.1%	25.1%	19.3%	20.2%	10.4%	100%
Chronological Age Range	30-68	21-49	26-71	25-68	44-70	

Note. Games-Howell post hoc tests were utilized for chronological age, organizational age, health and number of dependents. Superscripts indicate means in a given row are statistically different from the cluster identified by the subscript at the $p < .005$ level.

Table 14: Summary of ANOVA Results Indicating Differences Between Clusters on Workplace Motives

	Late Age Longer FTP (1)	Classic Young Age (2)	Classic Middle Age (3)	Late Age Shorter FTP (4)	Classic Late Age (5)
Growth Motives	Higher than Cluster 4				
Social Motives		Higher than Clusters 1 and 4			
Security Motives					

Table 15: Ad Hoc ANOVA Results

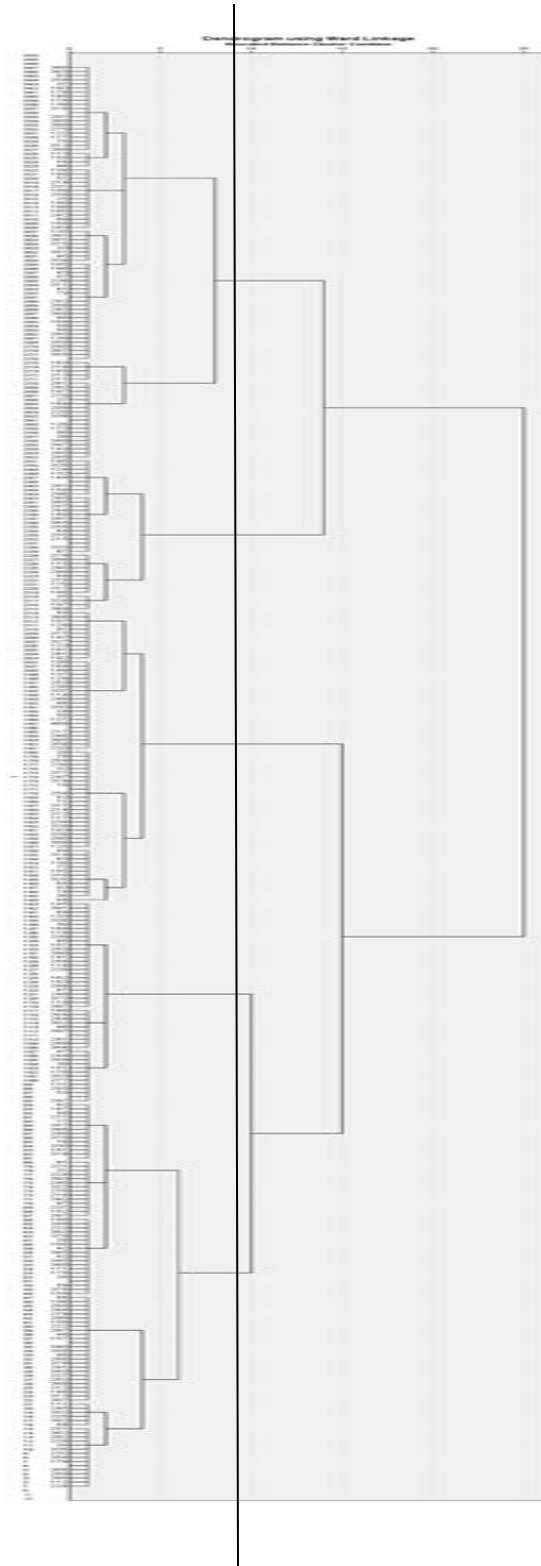
Cluster	1	2	3	4	5	ANOVA Statistics
	Late Age Longer FTP	Classic Young Age	Classic Middle Age	Late Age Shorter FTP	Classic Late Age	
Age Concept	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>
Subjective Age Discrepancy	-10.80 (6.43) ^{2,3,4}	0.21 (3.85) ^{1,3,4,5}	-3.79 (7.80) ^{1,2}	-3.67 (7.79) ^{1,2}	-9.59 (8.45) ²	$F_{(4, 342)} = 34.48$ $\eta^2 = .287$
Focus on Opportunities	5.31 (1.26) ^{4,5}	5.45 (1.22) ^{4,5}	5.20 (1.19) ^{4,5}	3.03 (1.36) ^{1,2,3}	3.90 (1.45) ^{1,2,3}	$F_{(4, 342)} = 48.29$ $\eta^2 = .361$
Focus on Limitations	4.47 (1.52) ⁴	4.22 (1.61) ⁴	4.31 (1.57) ⁴	2.80 (1.18) ^{1,2,3}	3.58 (1.48)	$F_{(4, 342)} = 15.44$ $\eta^2 = .153$
<i>N</i>	87	87	67	70	36	347
% of Total <i>N</i>	25.1%	25.1%	19.3%	20.2%	10.4%	100%
Chronological Age Range	30-68	21-49	26-71	25-68	44-70	

Note. Games-Howell post hoc tests were utilized for chronological age, organizational age, health and number of dependents. Superscripts indicate means in a given row are statistically different from the cluster identified by the subscript at the $p < .005$ level.

Table 16: Summary of Ad-Hoc ANOVA Results

	Late Age Longer FTP (1)	Classic Young Age (2)	Classic Middle Age (3)	Late Age Shorter FTP (4)	Classic Late Age (5)
Subjective Age Discrepancy	More youthful than Clusters 2 and 3	Least youthful of any cluster			
Focus on Opportunities				Shorter FTP than Clusters 1, 2, and 3	Shorter FTP than Clusters 1, 2, and 3
Focus on Limitations				Shorter FTP than Clusters 1, 2, and 3	

Figure 1: Dendrogram of Age Conceptualization Clusters



APPENDIX A

Chronological Age

1. How old are you in years?

APPENDIX B

Organizational Tenure

1. How many years have you been at your current company?

Job Tenure

2. How many years have you been at your current job?
3. How old are the majority of individuals at your organization (age norms in company)
4. What is the average age of individuals at your organization?
5. What is the average of individuals at your specific location of work?

Industry Tenure

1. How many years have you been in your current industry?

APPENDIX C

Career Stage

Exploration Stage

1. Finding the line of work that I am best suited for.
2. Finding a line of work that interests me.
3. Getting started in my chosen career field.

Establishment Stage

4. Settling down in a job I can stay with.
5. Becoming especially knowledgeable or skillful at work.
6. Planning how to get ahead in my established field of work.

Maintenance Stage

7. Keeping the respect of people in my field.
8. Attending meetings and seminars on new methods.
9. Identifying new problems to work on.

Disengagement Stage

10. Developing easier ways of doing my work.
11. Planning well for retirement.
12. Having a good place to live in retirement.

Directions: Please rate your current level of concern regarding each task using the following scale:

1 No Concern to 7 Great Concern

APPENDIX D

Functional Age (Subjective General Health)

1. How would you rate your general health?

- 1 Poor
- 2 Average
- 3 Good
- 4 Very Good
- 5 Excellent

APPENDIX E

Life-Span Conceptualization of Age

1. Do you currently have any children living with you?

- Yes
 No
 Decline to Answer

1a. If Answer=Yes to previous, how many children are living with you?

1b. Only considering the children living with you, how many do you have at each age living with you?

- 0-3
 4-6
 7-12
 13-20
 21-25
 26 or older

2. Are you responsible for caring for any of the following:

- Parent
 Spouse
 Partner
 In-law
 Friend
 Another adult relative

3. What is your marital status?

- 1 Single
 2 Married, Living Separately
 3 Married, Living Together
 4 Widowed
 5 Living with an Unmarried Partner

APPENDIX F

Subjective Age

1. "Compared to most people my age, most of the time I feel....."
2. "Compared to most people my age, most of the time I act....."
3. "My looks are most like people who are....."
4. "My interests and activities are most like people who are....."

1 a lot younger than my age

4 the age I am

7 a lot older than my age

If individuals choose any response except "4", they were prompted to self-report the age they feel, act, look, or have interests. This also acted as a check of the data.

Desired age

5. What age would you like to be if you could choose an age right now?

Directions:

1 A Lot Younger than my Age

2

3

4 The Age I Am

5

6

7 A Lot Older than my Age

6. How old do you feel in years?
7. How old do you act in years?
8. How old do you look in years?
9. What age reflects your interests in years?
10. What age would you like to be if you could choose an age right now?

APPENDIX G

Future Time Perspective

1. Many opportunities await me in the future.
2. I expect that I will set many new goals in the future.
3. My future is filled with possibilities.
4. Most of my life lies ahead of me.
5. My future seems infinite to me.
6. I could do anything I want in the future.
7. There is plenty of time left in my life to make new plans.
8. I have a sense that time is running out (R)
9. There are only limited possibilities in my future. (R)
10. As I get older, I begin to experience time as limited. (R)

Directions: Please indicate your agreement with the items using the following scale:

- 1 Very Untrue
- 2
- 3
- 4
- 5
- 6
- 7 Very True

APPENDIX H

Development/Challenge Motives

1. How important is the opportunity for personal development for you?
2. How important is having challenging work for you?
3. How important is the opportunity to learn something new for you?
4. How important is being able to fully use your skills and abilities for you?

Directions: Use the following response range to answer the following questions:

- 1 Totally Not Important
- 2 Not Important
- 3 Slightly Not Important
- 4 Neither Important nor Not Important
- 5 Slightly Important
- 6 Somewhat Important
- 7 Very Important

APPENDIX I

Growth Need Strength

1. How important is stimulating and challenging work?
2. How important is the feeling of worthwhile accomplishment I get from doing my job?
3. How important are opportunities to learn new things from my work?
4. How important are opportunities to be creative and imaginative in my work?
5. How important are opportunities for personal growth and development in my job?
6. How important is a sense of worthwhile accomplishment in my work?

Directions: Use the following response range to answer the following questions:

- 1 Totally Not Important
- 2 Not Important
- 3 Slightly Not Important
- 4 Neither Important nor Not Important
- 5 Slightly Important
- 6 Somewhat Important
- 7 Very Important

APPENDIX J

Advancement/Promotion Needs

1. I take chances at work to maximize my goals for advancement.
2. I tend to take risks at work in order to achieve success.
3. If I had an opportunity to participate on a high-risk, high-reward project I would definitely take it.
4. If my job did not allow for advancement, I would likely find a new one.
5. A chance to grow is an important factor for me when looking for a job.
6. I focus on accomplishing job tasks that will further my advancement.
7. I spend a great deal of time envisioning how to fulfill my aspirations.
8. My work priorities are impacted by a clear picture of what I aspire to be.
9. At work, I am motivated by my hopes and aspirations.

Directions:

Please indicate your agreement with each item using the following response range:

- 1 Strongly Disagree
- 2 Disagree
- 3 Slightly Disagree
- 4 Neither Agree nor Disagree
- 5 Slightly Agree
- 6 Agree
- 7 Strongly Agree

APPENDIX K

Need for Affiliation

1. When I have a choice, I try to work in a group instead of by myself.
2. I pay a good deal of attention to the feelings of others at work.
3. I prefer to do my own work and let others do theirs (R).
4. I express my disagreements with others openly (R).
5. I find myself talking to those around me about non-business related matters.

Directions: Use the following response range to answer the following questions:

- 1 Never
- 2 Almost Never
- 3 Seldom
- 4 Sometimes
- 5 Usually
- 6 Almost Always
- 7 Always

APPENDIX L

Helping Behavior

1. I focus my attention on getting along with others at work.
2. I spend a lot of time contemplating whether my coworkers like me.
3. I never give up trying to be liked by my coworkers and supervisors.*
4. I expend a lot of effort developing a reputation as someone who is easy to get along with.
5. I get excited about the prospect of having coworkers who are good friends.
6. I enjoy thinking about cooperating with my coworkers and supervisors.
7. I care a lot about having coworkers and supervisors who are like me.
8. I am challenged by a desire to be a team player.
9. I get worked up thinking about ways to make sure others like me.

Directions:

Please indicate your agreement with each item using the following response range:

- 1 Strongly Disagree
- 2 Disagree
- 3 Slightly Disagree
- 4 Neither Agree nor Disagree
- 5 Slightly Agree
- 6 Agree
- 7 Strongly Agree

APPENDIX M

Need for Recognition

1. I welcome assignments that provide a lot of recognition.
2. I display symbols of my success so people will notice them.

Directions: Please answer the above questions using the following response range.

- 1 Strongly Disagree
- 2
- 3
- 4 Neither Agree nor Disagree
- 5
- 6
- 7 Strongly Agree

APPENDIX N

Prestige/Status

1. I frequently think about ways to advance and obtain better pay or working conditions.
2. I focus my attention on being the best sales representative in the office.
3. I set personal goals for obtaining more sales than anyone else.
4. I spend a lot of time contemplating ways to get ahead of my coworkers.
5. I often compare my work accomplishments against coworkers' accomplishments.
6. I never give up trying to perform at a level higher than others.
7. I always try to be the highest performer.
8. I get excited about the prospect of being the most successful sales representative.
9. I feel a thrill when I think about getting a higher status position at work.
10. I am challenged by a desire to perform my job better than my coworkers.
11. I get worked up thinking about ways to become the highest performing sales representative.

Directions:

Please indicate your agreement with each item using the following response range:

- 1 Strongly Disagree
- 2 Disagree
- 3 Slightly Disagree
- 4 Neither Agree nor Disagree
- 5 Slightly Agree
- 6 Agree
- 7 Strongly Agree

APPENDIX O

Need for Autonomy

11. In my work assignments, I try to be my own boss.
12. I go my own way at work, regardless of the opinion of others.
13. I disregard rules and regulations that hamper my personal freedom.
14. I consider myself a “team player” at work. (R).
15. I try my best to work alone on a job.

Directions: Use the following response range to answer the following questions:

- 1 Never
- 2 Almost Never
- 3 Seldom
- 4 Sometimes
- 5 Usually
- 6 Almost Always
- 7 Always

APPENDIX P

Need for Achievement

1. I do my best work when my job assignments are fairly difficult.
2. I try very hard to improve on my past performance at work.
3. I take moderate risks and stick my neck out to get ahead at work.
4. I try to avoid any added responsibilities on my job. (R)
5. I try to perform better than my coworkers.

Directions: Use the following response range to answer the following questions:

- 1 Never
- 2 Almost Never
- 3 Seldom
- 4 Sometimes
- 5 Usually
- 6 Almost Always
- 7 Always

APPENDIX Q

Use of Skills (Self-Actualization)

1. How *important* is the feeling of self-fulfillment a person gets from being in your position (that is, the feeling of being able to use one's own unique capabilities, realizing one's potentialities)?
2. How *important* is the feeling of worthwhile accomplishment in your position?

Directions: Use the following response range to answer the following questions:

- 1 Totally Not Important
- 2 Not Important
- 3 Slightly Not Important
- 4 Neither Important nor Not Important
- 5 Slightly Important
- 6 Somewhat Important
- 7 Very Important

APPENDIX R

Compensation/Benefits Motives

1.How important is the pay for your position?

Directions: Use the following response range to answer the following questions:

- 1 Totally Not Important
- 2 Not Important
- 3 Slightly Not Important
- 4 Neither Important nor Not Important
- 5 Slightly Important
- 6 Somewhat Important
- 7 Very Important

APPENDIX S

Need for Security

1. I concentrate on completing my work tasks correctly to increase my job security.
2. At work I focus my attention on completing my assigned responsibilities.
3. Fulfilling my work duties is very important to me.
4. At work, I strive to live up to the responsibilities and duties given to me by others.
5. At work, I am often focused on accomplishing tasks that will support my need for security.
6. I do everything I can do avoid loss at work.
7. Job security is an important factor for me in any job search.
8. I focus my attention on avoiding failure at work.
9. I am very careful to avoid exposing myself to potential losses at work.

Directions:

Please indicate your agreement with each item using the following response range:

- 1 Strongly Disagree
- 2 Disagree
- 3 Slightly Disagree
- 4 Neither Agree nor Disagree
- 5 Slightly Agree
- 6 Agree
- 7 Strongly Agree

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ABSTRACT**THE IMPACT OF AGE ON WORKPLACE MOTIVATION: A PERSON-CENTERED PERSPECTIVE**

by

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The present study used the person-centered approach to examine how profiles based upon six different age conceptualizations differentially impact workplace motivation. In the first known study to examine all conceptualizations of age simultaneously, results suggested the age conceptualizations of subjective age and health significantly impact growth motives for older workers, but not social or security motives. Results suggest social motives are influenced more by chronological age as opposed to other conceptualizations of age. Implications for practitioners in designing and implementing HR activities (e.g., succession planning) and researchers in utilizing all the conceptualizations of age and studying workplace interventions are discussed.

AUTOBIOGRAPHICAL STATEMENT

Keith Zabel grew up in Three Oaks, MI, and received his B.A. in Psychology from Albion College in 2009 and M.A. from Wayne State University in 2012. Keith has published peer-reviewed journal articles on work ethic, aging in the workplace, and workplace interventions. As an applied practitioner, Keith has worked as an intern in the talent management areas at Dell and General Motors, and currently works in the HR Analytics area for Ford Motor Co. in their Global, Data, Insights, and Analysis organization.