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LIFE AND EMPLOYMENT TIME VECTORS: EFFECTS OF CURTAILED FUTURES ON BEHAVIOR AND ATTITUDES AT WORK

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ABSTRACT

Aging research within I/O psychology routinely relies on chronological age (time since birth) to capture an individual's aging process. However, aging undeniably not only results in an expanding time since birth, but also in a decreasing time remaining in life. Every year a person lives implies that this person's past has increased by one year, but also that this person's future has shrunk by one year. Research in developmental psychology has demonstrated that individuals become aware in their 50s that a finite amount of time is available in life and that the perception that one's future is limited affects individuals' goals and values (Carstensen & Frederickson, 1998). In I/O psychology a variety of theories rely on the concept of future. Specifically, motivational theories explicitly or implicitly require a cognitive representation of the future (Locke & Latham, 1990) during which the outcomes of a person's behavior may unfold. However, it has not been systematically researched how a limitation of a person's future affects human behavior and attitudes at work.

In this dissertation I proposed that there are two psychological mechanisms through which the perception of one's future (i.e., the time remaining in life) affects behavior in organizations and attitudes toward work. First, research in developmental psychology suggests that once individuals begin perceiving their remaining life time as limited, they increasingly value activities that are emotionally relevant and turn toward social contacts (e.g., spouses or children) that are meaningful and capable of generating immediate positive affect. In other words, the perceived time remaining in life may impact what kind of experiences individuals value. Second, building on expectancy value models (e.g., Vroom, 1964), individuals may be less motivated to engage in a particular activity if the valued outcome is likely to take place in the far future. If the future is perceived to be limited, activities with a pay-off in the future may not be *instrumental* to obtaining these outcomes, as the future may come to an end before the outcomes are realized.

This dissertation tests these two propositions and demonstrates the value of perceived time left in life using the results of four studies. First, reporting results of a qualitative study (N=28), it clarified how concretely the perceived time remaining in life affects behavior and attitudes of employees (as opposed to individuals in general, as usually done in developmental psychology). For example, a reoccurring theme described by interviewed employees was a decreasing preference for "getting ahead" and an increasing preference for "getting along". Second, I have introduced a scale that is suitable to measure the perceived magnitude of the time remaining in life. Using survey data I have provided evidence that the new scale is internally consistent and unidimensional. Third, I provided evidence for the construct validity of the newly developed construct "perceived time remaining in life" and distinguish it from other competing constructs (e.g., age, tenure, time perspective, etc.).

Third, I have provided evidence for the criterion validity of perceived time remaining in life and demonstrate a positive relation of perceived time remaining in life with work effort (e.g., job performance, personal initiative) and job involvement. This indicates that individuals who perceive their time remaining in life to be short are less involved in their jobs and spend generally *less* effort on work. A second finding of this dissertation was that especially individuals in unfavorable job conditions (low task variety and autonomy) showed a strong decrease in work effort and job involvement when time remaining in life was perceived to be limited. In contrast, individuals in favorable job conditions (high task variety and autonomy) showed no decrease of work effort and job involvement when time remaining in life was perceived to be short. This finding indicated that enriching jobs (e.g., providing job variety) may allow organizations to prevent individuals with perceived short time remaining in life from decreasing work efforts.

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CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW

The population of older Americans is "on the threshold of a boom" (Wan, Sengupta, Velkoff, & DeBarros, 2005; p. 1). The U.S. census projects that between 2010 and 2030 the number of individuals over 65 will double from today's 35 million to over 70 million. At the end of this development, one in five Americans will be older than 65 years (Hedge, Borman, & Lammlein, 2006) . These proportions are reflected in the labor force. Whereas in 2003 about 15 percent of the workforce was over 55, the U.S. Census Bureau projects that in 2020 about 20 percent of the entire labor force will be over 55. Although a major wave of retirement is anticipated in 2011, when the first baby boomers are reaching retirement age (Wan et al. 2005), Americans generally do not retire at 65. In 2003 about 33 percent of Americans between 65 and 69 years were still working, and 19 percent of Americans between 70 and 74 were still working. Projections suggest that these participation rates are likely to remain at this level up into the 30s and 40s of the 21st century (Toossi, 2002).

In addition to the numbers and proportion of older employees in the workforce, work itself may be changing for older employees. Structural conditions under which older individuals are employed are likely to be less standardized in the future. Most employees today choose to gradually withdraw from the workforce (Kane, Dobbs, Healey, Mak, & McNamara, 2007), which is commonly labeled phased retirement (Hutchens, 2007), bridge employment (Adams & Rau, 2004), or downshifting (Cahill, Giandrea, & Quinn, 2007). This means that the end of work life may not be abrupt but a slow and transitional process (Hansson, DeKoekkoek, Neece, & Patterson, 1997). It is further unclear with how much discretion individuals can make the decision to retire. In the past, employees had secure resources to stop working upon onset of defined benefits retirement plans. However, since defined benefits plans are increasingly replaced with defined contribution plans (e.g., 401(k) plans or IRAs) (Hayward, in press) employees may be

less secure concerning when to retire. Recent data by the Employee Benefit Research Institute (Fronstin, 2006; Helman, Greenwald, VanDerhei, & Copeland, 2007) suggest that over two thirds of all retirees are uncertain whether they have enough financial resources to retire. At the same time census data are suggesting that disabilities are less frequent among seniors and that aging employees can anticipate living longer and healthier lives than previous generations (Wan et al., 2005) and may have the capacity to work longer. Thus, employees have a wide variety of employment arrangements to extend their work-life and some may have the financial need, as well as the physical capability to do so.

Therefore, it is critical to obtain a thorough understanding of how this age group approaches the end of their work life and what factors may influence how they experience their employment before they retire. It is also critical to understand how these individuals approach higher age in general and how this anticipation affects their behavior and attitudes at work. Previously, aging was reflected by the most accessible index of aging: the time since birth. Examples of this research are attempts to find relationships between chronological age and work-related outcomes, such as job performance (McEvoy & Cascio, 1989; Waldman & Avolio, 1993), job satisfaction (Sturman, 2003), organizational commitment, job involvement (Warr, 1994), and training performance (Kubeck, Delp, Haslett, & McDaniel, 1996). Results have been mixed, yielding positive relationships (job attitudes), as well as negative relationships (training performance). Studies on job performance have typically found no substantial relationships (Sturman, 2003). However, age may not be the appropriate variable to predict the effects of aging, as it is inherently a *retrospective* conceptualization of aging. That means that age typically is assumed to reflect (sometimes explicitly, but more often implicitly) the effects of undefined processes or events that have taken place *in the past*. In contrast, in this dissertation I propose a *prospective* conceptualization of aging, which extends its investigative focus into the future. In

this conceptualization the future (and the potential events to come) is assumed to influence the individual at the present moment. Two types of future are central to this dissertation: *life time vector* (LTV) and *employment time vector* (ETV). LTV is defined here as an individual's future, which is the time interval between the present and the end of life. Analogously, ETV is an individual's future in the workforce: the time between the present and the end of employment.

However, as much as aging implies that one's past is growing over time, it implies that individuals' futures (LTV and ETV) are shrinking. An individual's behavior may be partially determined by cognitions that are positioned in the future, for example, plans, purposes, goals, and intentions (Bandura, 2005; Fishbein & Aijzen, 1975; Locke & Latham, 1990). Therefore, the never ceasing depletion of ETV and LTV is proposed to affect the motivation to engage in certain future-oriented behaviors. The ultimate contribution of this study is to propose and test a theoretical model that predicts how the shrinking of LTV and ETV affect work-related behaviors, such as job and contextual performance, job satisfaction, commitment, work centrality and the intention to retire.

In order to develop this model, I first draw from social and developmental psychology to clarify how restrictions of the future may affect behavior and attitudes. Second, in Study 1 I establish that LTV and ETV are salient constructs that are accessible by the individual and impacting certain, work-related outcomes. I further delineate two central dimensions on which individuals evaluate their LTV and ETV, *magnitude and salience*. Magnitude describes the expansiveness of the two futures; salience describes the level of awareness that individuals have for these two futures. In Study 2, I develop measures that reflect LTV and ETV and I establish discriminant and convergent validity with existing measures of future time. Finally, after scales are developed I use these measures to predict work related outcomes.

Use of age as a retrospective proxy

Chronological age has been decried as being inherently non-causal (Lerner & Ryff, 1978) and developmental psychologists have warned against attributing explanatory power to this variable (Baltes & Willis, 1977). Despite these warnings, age has often been used (Salthouse & Maurer, 1996a) as a proxy for other, causal variables (Kanfer & Ackerman, 2004; Salthouse & Maurer, 1996a). This substitution is typically justified by the assumption (either explicitly or implicitly) that age is closely associated to these presumably true causal variables. In essence, two classes of causal variables that are substituted by age can be differentiated: loss processes (e.g., loss of cognitive abilities, memory, or fluid intelligence) or gain processes (e.g., gain of skills, knowledge, or crystallized intelligence). An example of loss processes is the decremental theory by Giniger, Dispenzieri, and Eisenberg (1983) that theorizes that an increase in age will lead to a decrease in abilities (Rhodes, 1983; Salthouse, 1979). Indeed, various studies have shown that certain abilities do decline with age (Schaie, 1983, 1996). On the other hand, a variety of studies and models postulate that individuals gain skills and knowledge or other forms of experience over time (Ackerman, 2000; Baltes, 1997).

Common to both gain and loss paradigms is that chronological age is a surrogate for events, processes, and experiences that have taken place in the individual's *past*. For example, age is assumed to reflect the current level of expertise and is therefore a function of the accumulated learning experiences an individual had in the past. Similarly, age is assumed to reflect the current level of cognitive functioning and is reflected in the accumulated losses that have taken place previously. Thus, age represents the status quo of an individual; it is the net effect of all gains and losses in the past, and may be therefore labeled a *retrospective* index of aging. I am not intending to criticize the use of age as a proxy variable, as this has been done

elsewhere (Salthouse & Maurer, 1996a). However, this study will demonstrate that research on aging can benefit from supplementing the retrospective approach with a *prospective* approach.

Prospective conceptualization of aging: Life Time Vector and Employment Time Vector

The prospective conceptualization of aging is grounded in the observation that lifetime is limited. Aging does not just mean that an increment of time is passing. Aging is not only the accumulation of an additional year, week, or hour in an individual's life and the processes that may take place during this time. Instead, aging entails that the finite resource lifetime is used up. People are generally aware of this agonizing fact (Becker, E., 1973). Every hour lived implies that there is one less hour to live. The perceived finiteness of one personal future may even be exacerbated by the fact that time seems to pass more quickly with increasing age (Block, Zakay, & Hancock, 1998; James, 1890).

Thus, aging is not only reflected in an increasingly expansive past, but also in an increasingly *shrinking and confined* future. Individuals have various futures, for example, one may have a future as a college student, a future in a particular organization, or a future as a member of a certain team. The futures that I am focusing on are the future in life and the future in employment. This dissertation is based on the central assumption that the restriction and the finiteness of personal future will affect individuals' work behavior and attitudes. I therefore introduce two novel concepts to capture a person's future in life and future in employment. I label them *life time vector* (LTV) and *employment time vector* (ETV). The term vector is very useful as it clarifies some of the defining properties of the respective futures I am attempting to describe. First, (spatial) vectors can be thought of as an arrow with a point of *origin* that points in a certain *direction*. Vectors have a specific *endpoint* and therefore a defined *length*. For a vector, the length (magnitude) cannot be mentally divorced from the endpoint, as the endpoint is one of the two coordinates that define the length of a vector. These properties also can be found in the two

futures discussed. Each future has a point of origin (the present), a direction (into the future, not the past), and a certain length and endpoint, either the end of life or the end of work life. I am intending to use the labels LTV and ETV, as they allow disambiguating these new concepts from superficially similar, but fundamentally different time constructs, such as future time perspective (Trommsdorff, 1983) or future time orientation (Holman & Silver, 1998).

Individuals may envision futures that go beyond their own lives, such as the future of one's family, nation, or even species (Bluedorn, 2002), but the LTV is the maximum time interval during which a person can envision to be acting. By the same logic, the ETV is the maximum time interval during which a person can envision acting in an organization. In this sense, ETV is a subset of LTV. LTV and ETV are shrinking as a function of the aging process and are delimited by the future events of death and retirement. They allow moving away from a "retro perspective" and assume a prospective approach to aging in organizations. The adequacy of a prospective approach is clear once the nature of human motivation and the nature of human agency in general are drawn into consideration. A core feature of human agency is intentionality and the human ability to temporally extend this agency into the future through forethought (Bandura, 2005). In fact, some researchers have put forward the notion that people cognitively time travel into the past and into the future when they are making plans or envisioning future outcomes (Friedman, W. J., 1993; Suddendorf & Corballis, 2007). The ability of reaching into this future time space may be an ability that is unique to the human species (Roberts, 2002).

As Bandura pointed out: "A future cannot be a cause of current behavior because it has not material existence". But by being represented cognitively in the present, visualized future serves as current guides, and motivators of behaviors." (Bandura, 2005, p. 10). In general, the concept of motivation is not conceivable without allowing the individual to foresee the future.

Motivation theories are replete with constructs pertaining to the future. Nuttin (1964) stated explicitly:

> "The psychological future is essentially related to motivation. On the behavioral level the object needed is something to come, to reach, or to achieve, and this constitutes the behavioral future. Thus, the future is the time quality of the goal object; the future is our primary motivational space." (p. 63)

Indeed, various conceptualizations, as diverse as drive theory (Hull, 1943), needs theories (e.g. Herzberg, Mausner, Peterson, & Capwell, 1957; Maslow, 1943; Murray, 1938) or expectancy-value theories (e.g. Tolman, 1932; Vroom, 1964) feature a desired and thus inherently future related state. Inherent to these theories is the hedonistic and utilitarian core assumption that behavior is directed by the future states of maximized pleasure and minimized pain (Atkinson, 1964). This future state is made explicit in motivational theories common in I/O psychology, such as goal setting theory (Locke & Latham, 1990; Locke, Shaw, Saari, & Latham, 1981), and control theory (Carver & Scheier, 1998). Here the future state has been labeled goal, standard, or reference point. Especially, cognitive choice theories capitalize on the notion that the *value* of a future outcome determines partially whether a particular course of action is initiated and maintained (Hollenbeck & Klein, 1987; Hollenbeck, Williams, & Klein, 1989; Klein, 1991; Naylor, Pritchard, & Ilgen, 1980). This value has been termed in various ways, for example, "demand for goal" (Tolman, 1932), "valence" (Lewin, 1935; Vroom, 1964), "utility" (Edwards, 1954), "incentive" (Atkinson, 1964), or "anticipated affect" (Naylor et al., 1980).

Second, cognitive choice theories also have in common the concept of *expectancy*. Expectancy reflects the likelihood that an action will lead to a certain outcome or goal (Lawler, 1973). The future relatedness of expectancy is axiomatically inherent to expectancy, as it is the mental simulation of a not yet materialized event. In sum, the central theories that describe

human agency inherently require an individual to "travel in time" and mentally represent the potential outcome of his/her actions.

Effects of a limited Life Time Vector

Given the importance of future for human agency, what happens if this future is truncated or altogether non-existent? A variety of research accounts provide insights into how individuals react to time vector limitation. Karp (1986; Karp, 1988) showed that aging individuals become aware of the finiteness of their lives in their fifties, and that they generally develop an understanding of being old during that time period. Karp calls this period the "decade of reminders" as during a person's 6th life decade bodily (physical decline), generational (e.g., independence of children), contextual (e.g., being the oldest in a social setting), and mortality (the passing away of friends and family) reminders occur in high frequency and make the individual aware that s/he is aging and approaching the end of life. Around this time, aging individuals stop counting up the years that they have lived and instead start counting down the number of years that they assume are remaining. Karp (1988) used an interview study to identify common themes among individuals in this age group. He reports that once future was understood as a finite time resource, his interviewees responded with deliberate planning on what to do with the remaining resource. In addition, his interviewees started prioritizing activities and selecting those that are of particular importance for them. In an earlier interview study (Karp, 1986) of university professors, interviewees reported becoming more selective with research projects and to generally decrease the intensity toward research work, focusing on those topics that they regard as extremely important. At the same time, many participants expressed an increasing humanism and desire for generativity, trying to share life's wisdoms that they have accumulated. Karp's studies merit special attention as they have established that at least some individuals in their 50s and 60s

feel that "time is running out" and that the value of the remaining time resource is recalculated. This establishes that the concept of a limited LTV may be salient to aging individuals.

A second account provides a more theoretical foundation on which to base predictions about the effects of future truncation. Socioemotional selectivity theory (Carstensen, 1991, 1993; Carstensen & Frederickson, 1998; Carstensen, Fung, & Charles, 2003; Carstensen, Isaacowitz, & Charles, 1999) postulates that behavior is motivated by different goals, depending on the projection of time remaining in life (Carstensen et al., 1999). The theory features two major categories of goals. The first category consists of *knowledge related* goals, which refer to "acquisitive behavior geared toward learning about the social and physical world" (Carstensen et al., 1999, p. 166). Attaining these goals ultimately optimizes adaptation to the environment and ensures survival. This behavior is inherently future-related as its outcome, a better adaptation to the environment, manifests in the future. Carstensen argued that learning and exploration, as well as many social behaviors, are motivated by the desire to acquire knowledge (e.g., when interpersonal contacts serve the primary purpose of obtaining information).

The second category of goals is comprised of *emotionally relevant* goals, which are primarily geared toward the regulation of emotions. Carstensen et al. (2003) stated that emotionally relevant goals aim at minimizing emotional discomfort and maximizing emotional comfort. A central feature of emotionally relevant goals is that they allow the individual to immediately and directly reap the emotional benefits of these goals. According to Carstensen (Carstensen et al. 1999), emotionally relevant goals encompass the desire to find meaning in life, gain emotional intimacy, and establish feelings of social embeddedness and, therefore, often require contact with social partners. The strategy to regulate emotions through social partners is very common and used starting with birth (Carstensen et al., 1999). Emotional comfort can be achieved through *socially meaningful interactions* (Carstensen et al., 2003).

The distinction between knowledge related and emotionally relevant goals is intended to serve as a heuristic discrimination between goals that are pursued to obtain information, which lead to future benefits, from goals that are pursued for the purpose of the emotional experience, which unfold immediately. The central tenet of socioemotional selectivity theory is that the values of these two goal categories shift over the course of an individual lifetime. The valuation of emotional goals follows a curvilinear trajectory. While they are critical during infancy and early childhood, they loose importance during adulthood (Carstensen et al., 1999). When life is perceived as coming to an end and individuals realize that "they are running out of time to live", they value increasingly the experience of meaningful social ties. Emotionally meaningful goals are now preferred as they are experienced immediately, "a valuable commodity in the face of limited time" (Carstensen et al., 2003, p. 107). This increase in value of emotionally relevant goals is paralleled by a decrease in the value of knowledge relevant goals. The value of knowledge goals increases during infancy and adolescence and decreases after middle age. With the realization of the finiteness of lifetime, and the subsequent insight that the there might be no use for the acquired knowledge because there is little future left, the value of knowledge related goals decreases (Carstensen et al., 2003).

For both emotionally and knowledge relevant goals, value is not a function of age, per se, but a function of the *expansiveness of the future*. Research on terminally ill patients (Carstensen & Frederickson, 1998) and young gang members with low self-anticipated life expectancy (Carstensen et al., 1999) demonstrated that the amount of remaining future lead to socioemotional shifts from knowledge related to emotionally relevant goals. This change was similar to all participants, regardless of their age. A field experiment with citizens of Hong Kong (Fung, Carstensen, & Lutz, 1999) showed that one year before the handover of Hong Kong to China, no distinct preference for emotionally relevant goals was present. However, two months before the

handover and the potential threat of a thorough change of life, the participants showed a clear preference to spend time with meaningful social partners, such as family and close friends. Similar results were achieved with citizens of New York City, right after the attack of the World Trade Center on September 11th, 2001 (Fung & Carstensen, 2006). Carstensen and her colleagues used these three examples to support their central proposition that it is the limitation of one's future that is driving the decrease in valuation of knowledge related goals and the increase in value of emotionally relevant goals.

In sum, both Karp and Carstensen suggest that the limitation of the LTV may affect what behaviors and activities are perceived as being valuable. Attitudes towards knowledge-related goals may worsen, while attitudes towards emotionally relevant goals may improve. This shift of values described by Carstensen is a central building block of this dissertation, which is summarized in Proposition One. After Studies 1 and 2, I revisit this central notion to derive statistically testable hypotheses.

Proposition 1: The magnitude of a person's LTV is negatively related to the value of emotionally relevant goals and positively related to the value of knowledge related goals.

Differentiating LTV from Time Perspective, Future Time Perspective, and Other Conceptualizations of Time

The magnitude of the LTV been postulated as being a central and novel construct that is introduced in this dissertation. However, a variety of other constructs that capture how individuals value, organize, and experience the future are available. To distinguish the present concept, LTV (and as a derivative ETV), I will briefly discuss and compare other, existing future or time related constructs.

Age. The most accessible and very reliable measure of LTV may be age. Indeed, as human life is limited, the time since birth may be negatively correlated with the time that is remaining in one's life. However, as lifetime is variable and of unknown length, age is not a perfect index of future life. Individuals may have idiosyncratic assumptions about their length of life and various longitudinal studies (Busse & Maddox, 1985; Schaie, 1983, 1996) have indicated that the aging process shows strong interindividual variability, implying that the aging experience itself may be different. While some individuals may perceive their bodies to be declining early, others may be healthy and active into older age. The fact that two individuals are 65 years old does not imply that the same universal program and progression of decline has unfolded for these two individuals. Instead, interindividual differences make it unlikely that the number of years since birth is an adequate marker for an individual's position in the life span. In addition, simply using age would not remedy the problem of age's nature as a proxy variable (Salthouse & Maurer, 1996a, 1996b). The underlying psychological mechanisms would not be uncovered.

Future Time Perspective and Time Perspective. A common time and future related construct is future time perspective (FTP). The earliest use of this term goes back to Lewin's (1951) life space model in which he defined time perspective as "the totality of the individual's views of his psychological future and psychological past existing at a given time" (p. 75). Other early users of this term defined it as the "timing and ordering of personalized future events" (Wallace, 1956), the "general concern for the future" (Kastenbaum, 1961), or the "general capacity to anticipate, shed light on and structure the future" (Trommsdorff, 1983). More recent definitions of FTP are a "nonconscious process whereby the continual flow of personal and social experiences are assigned to temporal categories, or time frames, that help to give order, coherence, and meaning to those events" (Zimbardo & Boyd, 1999, p. 1271). A construct that has been distinguished from time or future time perspective is time or future time *orientation*

(Nuttin, 1985). Time orientation refers to "cognitive involvement focused predominantly on one of the three time zones (i.e., past, present, or future)" (Holman & Silver, 1998, p. 1146). However, the distinction between orientation and perspective is not always clear or applied systematically (Seijts, 1998) and sometime they are used interchangeably in the same articles (Zimbardo & Boyd, 1999). One of the most recent time related constructs reflects yet another facet on how individuals may think about their future. Bluedorn (2002) introduced temporal depth, which is defined as "the temporal distances into the past and future that individuals and collectivities typically consider when contemplating events that have happened, may have happened, or may happen" (p.114). Substantial difference in the conceptualization of time perspective and orientation is also reflected in the diversity of measures. FTP has been measured with projective tests (Kastenbaum, 1961; Wallace, 1956), story completion paradigms (Barndt & Johnson, 1955), or incomplete sentence test (Lessing, 1972). More recent survey methods were produced by Shipp (2007), Zimbardo and Boyd (1999), Holman and Silver (1998), and Strathman, Gleicher, Boninger, and Edwards (1994).

In sum, FTP is not a unidimensional construct and researchers in the past have emphasized specific sub-dimensions of this construct in their research. This diversity in theory and measurement may in fact be one of the reasons for the inconsistent research results found so far (Zimbardo & Boyd, 1999). Seijts (1998) tried to remedy the lack of a unified definition and measurement by describing the various dimensions of FTP that have been assessed so far. His comprehensive review yields five dimensions. First, there is coherence, which is defined as the degree of organization of the events in the future time span. An example of this category is the future events test (Kastenbaum, 1961; Wallace, 1956), which assesses how well a person has planned out and organized the future. Second, density is defined as the number of events expected in one's future (i.e., goals, hopes, fears, and wishes). Density was assessed in Wallace's

(1956) study which assessed how many events individuals listed in the Future Events Test. Third, dimensionality reflects the extent to which a person perceives him or herself as oriented towards the future or the past. An example may be Holman and Silver's (1998) theory that individuals may be "stuck in the past" and unable to orient towards the future. Other examples may be Zimbardo and Boyd's "future" subscale of the ZTPI and Shipp's Temporal Focus Scale. Fourth, affectivity reflects the extent do which a person is gratified or pleased by anticipated events. This is assessed in Zimbardo and Boyd's (1998) ZTPI, which differentiates between individuals who may be, for example, present-hedonistic, past-positive, past-negative, or present-fatalistic. Fifth, extension reflects the length of the future time span that is conceptualized (Wallace, 1956). Although superficially this dimension seems similar to LTV or ETV, it is actually quite different. Extension is best further explained by a description of the projective tests through which it has been measured in the past (Barndt & Johnson, 1955; Kastenbaum, 1961; Lessing, 1968, 1972; Platt & Eisenman, 1968; Stein, Sarbin, & Kulik, 1968; Wallace, 1956). Typically, individuals are asked to identify events in the future (either from lists or self generated) or are asked to complete the beginning of a story. They are then instructed to explain when these events will happen. Then, the average or median time in years to these events is calculated and is used as an index of how far into the future an individual plans or the length of the future that an individual envisions or "conceptualizes" (Wallace, 1956). Thus, extension reflects the general distance that an individual looks into the future.

In contrast, LTV (and ETV) reflects the concrete time distance toward a distinct event in time (either death or retirement). This event may or may not be within the reach of the extension. The difference is perhaps best explained using an analogy. Following Wallace's definition, FTP extension can be understood as the range of the cognitive flashlight that the individual has to enlighten future events (or past events). The range of this light can differ between individuals. In

contrast, FTV and ETV are the specific futures that an individual foresees to a *particular* event. LTV may be best described by the distance to a curtain beyond which none of the cognitive light beam can travel. It is the distance between present and an event (e.g., death), not the reach of the outlook into the future. The individual can only act or imagine acting within the "motivational space" (Nuttin, 1964) that spans between now and the end of his future.

Carstensen and Lang's (1996) Future Time Perspective Scale

Of great importance to this dissertation may be a measure developed by Lang and Carstensen (1996) who intended to build a measure specifically for use in studies of SST. Their measure, again labeled "FTP scale", consists of the following 10 items:

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

The items that Carstensen and Lang used seem to be assessing two broad concepts: First, the opportunities that a person foresees in his or her future (represented by the first six items) and, second, the limitations of future time (represented by the last four items). That means that this scale may partially cover the construct domain postulated in this dissertation. Carstensen and Lang offer 4 items that reflect the limitation of future. However, six of the ten items of this scale are reflecting the opportunities that persons believe they have in the future, which is not identical to the limitation of personal future. As the manuscript that describes the scale development (Carstensen & Lang, 1996) is unpublished, it is unclear at this point whether capacity and

opportunity are a proxy for expansiveness, or whether opportunity is a construct that itself determines the priority of emotional or knowledge related goals.

Two questions about the FTP scale remain open. First, do individuals who are approaching their retirement age and who may be between 50 and 65 years old experience a lack of opportunities at all? It may be conceivable that although future is being conceptualized as finite, it may not pose a restriction on the possibilities that await an individual in the future. Second, the remaining four items about limitation may not be sufficient to capture the entire construct domain. A recent study by Cate and John (2007) suggests that item 8 ("Most of my life lies ahead of me") is part of the opportunities factor, not the limitations factor. This would even further reduce the number of suitable items of this scale. Obviously, it will require a quantitative answer to assess whether the FTP scale or parts of it are sufficient to measure the limitation of individual's future.

In sum, a broad variety of future related constructs and scales exist. Only one of them, Carstensen and Lang's (1996) FTP scale, captures the limitation of LTV, whereas most others capture unrelated dimensions of future time perspective that are not useful in the context of this study. Carstensen and Lang's (1996) FTP scale may be applicable, but it is unclear whether the limitation items (item 7 to item 10) are a sufficient measure of personal future limitation.

Research questions

Before LTV can be applied in a study, a set of questions needs to be answered. First, LTV exists at least theoretically, but it is not yet established if individuals have a mental representation of this concept. Research on terror management theory (Rosenblatt, Greenberg, Solomon, Pyszczynski, & et al., 1989; Solomon, Greenberg, & Pyszczynski, 1991) indicates that the awareness of mortality (mortality salience) only has an effect on behavior if it is experimentally induced (Greenberg, Solomon, & Pyszczynski, 1997; Wisman & Goldenberg,

2005). Therefore, although Karp's (1986, 1988) interview studies suggest that individuals are "reminded" in their 50s, the question is warranted to assess if FTV exists as a *preconceived notion* or whether it is an epiphenomenon that is generated in the moment that individuals are questioned.

Research question 1a: Do individuals have an extant, preconceived notion of their LTV?

Second, assuming that LTV has preconceived mental representation, it is necessary to understand how exactly individuals think about it, that is, in what *dimensions* they think about it. For example, what are the occasions in which individuals think about LTV and what are the emotions that accompany such thinking?

Research question 1b: In what dimensions do individuals think about LTV? What are triggers or occasions that lead to awareness and thinking of LTV?

The limitation of LTV is theoretically assumed to impact the priority of emotionally meaningful and knowledge related goals. It is yet to be further defined how these shifts in priority could affect work-related outcomes. That is, the outcome domain is at this point undefined. To define the outcome domain, it is necessary to ask whether the FTP affects individual's behaviors and attitudes at work, and what specific effects may exist.

Research question 2c: What are the outcomes of a limitation of the LTV?

Employment Time Vector: a prerequisite for action

In addition to LTV, individuals may also have a concept of their future in the workforce, an ETV. Being employed and being productive provide individuals with more than financial compensation, such as social contacts, status, prestige, and meaningfulness (Friedman, E. A. & Havighurst, 1954; Mor Barak, 1995; Sverko & Vizek-Vidovic, 1995). Therefore, the end of employment may be perceived as the end of a very meaningful time period and may, therefore,

itself be meaningful. Before I review the literature that may provide insight into the effects of a curtailed ETV, it is important to properly define retirement, the endpoint of the ETV.

Definition of retirement

Increasingly, the distinction between employment and retirement has become blurry, as employee retire gradually (Adams & Rau, 2004; Dendinger, Adams, & Jacobson, 2005; Ekerdt, DeViney, & Kosloski, 1996; Hansson et al., 1997; Loi & Shultz, 2007) and seek "bridge employment", which is defined as "a transition into some part time, self employment, or temporary work after full time employment ends and before permanent retirement begins" (Feldman, 1994, p. 286). Bridge employment has sometimes been labeled phased retirement or downshifting (Cahill et al., 2007; Hutchens, 2007), but common to all concepts is that work life does not end abruptly, rather the employee experiences a "slowing down" (Adams & Rau, 2004) of work load. Bridge employment may be a vehicle for the retiring individual to stay in the work force, earn money, and enjoy the benefits of work life while adjusting to desired levels of work force participation (Weckerle & Shultz, 1999). At the same time bridge employment may be a practical way to keep qualified and valuable employees in the organization, or "unretire" (Cahill et al., 2007) and hire them (Rau & Adams, 2005).

Due to the transitory nature of retirement, it is hard to define the moment at which retirement begins and work-life ends. Instead of providing a definition, I argue that it is most appropriate to allow participants to label themselves regarding whether their plans constitute retirement. This is grounded in the observation that essentially two definitions are conceivable: an *inclusive* definition that regards bridge employment as part of retirement, and an *exclusive* definition, which regards bridge employment as part of employment. There are strong arguments for either definition. An inclusive definition appears reasonable as bridge employment is not part of full time career employment (Weckerle & Shultz, 1999) but an instrument to transition out of

the job. Therefore, employees may not have the expectation to hold the job for a long time or to rise in the organizational hierarchy. Data indicate that this may often be the case. A critical reason to be in bridge employment is to obtain money and secure health insurance benefits (Dendinger et al., 2005), not to have a full career (Burton & Binette, 2007). In contrast, an exclusive definition may be warranted as the regular career before bridge employment may not have been different in nature than bridge employment itself. Full time career employment may be becoming increasing rare in the future (Ekerdt, in press) and new career models, often labeled protean or boundaryless careers, require employees to flexibly and adaptively react to career changes (Hall, 2004; Hall, Briscoe, & Kram, 1997). Briscoe and Hall (2006) note that the definition of a boundaryless career emphasizes physical and/or psychological physical mobility or change (Arthur & Rousseau, 1996). Episodes of full employment may be mixed with episodes of part time employment (Ekerdt, in press). In this regard, the central characteristics of bridge employment and protean or boundaryless career situations may not be exclusive but partially overlapping. For an individual coming out of a boundaryless career, a bridge job may "feel and look" not much different than previous jobs.

Therefore, it may be best to define retirement as the job transition that the individual perceives to be retirement. In consequence, ETV could mean for an "inclusive" individual the future in his/her full time career employment. For an "exclusive" individual it may mean the future that an individual has in full or bridge employment. As ETV is not an objective variable but a mental representation of the future, it may not be necessary to select a rigid definition of retirement. Instead, it is more appropriate to allow participants to label their future employment plans as retirement or as employment.

Employment Time Vector: a salient variable for employees

Comparatively few studies have investigated how individuals conceptualize their ETV and whether this time vector actually exists as a mental representation for employees. A central study was performed by Ekerdt and DeViney (1993) who showed in a time-series study that men evaluated their jobs as more burdensome with increasing proximity to retirement but not with increasing age. This is in contrast to other accounts that suggest that work attitudes improve with age (cf. Warr, 1994). They concluded that workers are engaged in a pre-retirement process, which entails a gradual dissociation from the work role and the anticipation of being retired. Ekerdt and DeViney (1993) explicitly mentioned the term "time-left to retirement" (p. S35) and encouraged the notion that time-left to retirement but not age organizes the work experience of older employees. In an earlier study (Evans, Ekerdt, & Bosse, 1985) men in the age range between 45 and 75 reported to be increasingly thinking about retirement, considering the timing, but also the implications for life style. A similar follow-up study by Ekerdt, Kosloski, and DeViney (2000) indicated that workers started planning and thinking about retirement about 15 years before the actual event. Indeed, individuals do not become aware of future retirement beginning with their 60s but long before (Hansson et al., 1997). First retirement plans are made as early as the 40s (Han & Moen, 1999). Although the latter studies don't evidence the existence of ETV, they suggest that retirement is foreshadowed by a pre-retirement process (Ekerdt & DeViney, 1993) during which the remaining time most likely becomes salient. As the ETV defining event (retirement) is made salient, it is likely that the future leading up to this event has equally been made salient in this anticipatory process.

One central concern is that ETV is strongly correlated with age and, therefore, is redundant. However, this would only be the case if all individuals would retire at the same age, for example as a result of mandatory retirement. Mandatory retirement age is illegal for most

occupations in the USA (Hedge et al., 2006) and empirical data suggest that age and the time remaining until retirement are not redundant. First, Ekert and DeViney (1993) state that age and ETV are correlated, but that they are far from being perfect indices of each other with correlations ranging from -.21 to .27.

Second, Ekerdt, DeViney, and Kosloski (1996) demonstrated, using a sample of 5000 male workers between the age of 51 and 61 who responded to the Health and Retirement Study in 1992, that substantial variation concerning retirement planning existed. Twenty one percent of the respondents intended to retire completely, 20 percent planned to reduce effort, 10 percent planned to change jobs, 7 percent planned to never stop working, and 43 percent had no concrete plans. Within each group there was substantial variation concerning *when* to make the predicted transition. Among the individuals who intended to retire, 28 percent predicted to do so at 62, 45 percent predicted to retire between 62 and 64, and 24 percent predicted to retire at 65 or later. The time distribution was even wider for individuals who planned to reduce effort or change jobs. The individuals without concrete plans for retirement were asked in follow up questions when they assume they will likely to stop working. About 30 percent indicated that they would probably retire before 65 and 35 percent of the respondents said they probably would retire after the age of 65. This variation of retirement plans and the variation of at what age these plans are put into action imply that age itself is probably not a good measure of ETV. The remaining individuals did not know or suggested that they would never retire. The explicit plan not to retire may constitute a boundary condition for this study. Without the anticipation of retirement (regardless how vague) no ETV is defined. However, this group of individuals may be fairly small. In Ekerdt et al.'s (1996) study only 7 percent explicitly predicted to never retire. To further explore retirement plans, the 2004 wave of the Health and Retirement Study was analyzed. In this recent version of the survey, more retirement plan options were offered and both men and women were

included. Tables 1 and 2 display the results of these analyses. For men (N=4,059) and women (N=2,993) there was again substantial variation concerning the age at which the individual intended to initiate the respective retirement plan. The percentage of individuals with the explicit plan to never stop working was less than 5 percent.

In sum, there are various pathways into retirement. Whereas some aging individuals plan to simply stop working, others intend to gradually lower effort, or change jobs. These various retirement plans do not occur at a universal age. Instead in the two samples analyzed, substantial variation concerning the age at which the retirement plan is initiated exist. A corollary of this finding is that chronological age might be related to but certainly is not redundant with ETV.

Effects of a restricted ETV

Very little research so far has focused on the effects of a curtailed or short ETV. This seems surprising, given that during shrinking ETVs individuals prepare to exit the workforce and prepare to transition into retirement (Ekerdt & DeViney, 1993). For an individual, shrinking ETV means that the likely prior dominant life activity, and potentially *the* central source for identity, social contacts, status, and prestige, is about to run dry (Mor Barak, 1995). Given the importance of work for individuals, it seems reasonable that the foreshadowing of the cessation of work should have effects on how these individuals experience their remaining work life.

In this dissertation, I postulate that a limitation of ETV may decrease the instrumentality of a particular behavior or long-term work related goal. Future oriented behaviors within an organization require a certain ETV as a necessary condition to be manifested, a notion that led Brandtstätter and Rothermund (2003) to conceptualize remaining time as an *action resource*. It is axiomatic that if the action resource ETV is lacking and a goal or state cannot be reached within the time available, the behavior to pursue this goal should be perceived as being non-instrumental for reaching the goal. In consequence, individuals have limited motivation to engage in the course

of action leading to this goal or state (Klein, 1991). This lack of instrumentality can be linked back to the previous discussion of human agency, formalized in cognitive choice paradigms. In Lawler's (1973) reformulation of Vroom's (1964) VIE model, instrumentality is defined as the *expectancy* that a certain performance will lead to a valued outcome (P→O expectancy)[1]. If ETV is curtailed, no such expectancy can exist. In this case, I argue that restrictions in ETV will lead the employee to assume that not enough time is left to reap the benefits of a certain performance. In other words, there is no payback period or the anticipated payback period is too short.

Proposition 2: The magnitude of the ETV will be negatively related to the perceived instrumentality of behaviors that extend into the future or whose benefits and rewards are reaped in the future.

A single empirical study lends evidence to this line of reasoning. Simpson, Greller, and Stroh (2002) hypothesized that older employees will not invest their own financial resources in training activities since they do not anticipate that this investment will amortize. Simpson et al. (2002) based this proposition on neoclassical approaches in economics (Becker, G., 1964; Rix, 1996; Straka, 1992) that postulate employers will not invest in their older employees as these investments are not assumed to produce sufficient returns. Simpson et al. (2002) found support for their hypothesis. The lowest investments were among the 50 to 65 year olds. However, there were some categories of training and development in which older employees were more likely to invest in training than their younger counterparts. In late career (ages 50 to 65) employees invested more in academic credentialing programs, targeted career and job-related courses, on-the-job computer-based training, and unspecified other categories (Simpson et al., 2002).

[1] This performance-outcome (P→O) expectancy is distinct from the expectancy that a certain effort will lead to a certain performance (E→P expectancy) (Lawler, 1973). The E→P expectancy has often been associated with self-efficacy (Hollenbeck & Klein, 1987) and might be affected by putative cognitive decline or gains in expertise often proposed or assumed in other studies (Rhodes, 1983; Sturman, 2003)

Differentiating ETV from other Conceptualizations of Time

ETV is an entirely new concept. Therefore, there are no existing measures for organizational future with which ETV could or should be compared. However, in the following studies (Study 1 and Study 2) I assess whether ETV overlaps with other future related concepts (e.g., FTP scales, or future time orientation). The rationale why ETV is different from these measures is captured in the previous section on LTV. In Study 1 I also use an *organizational* FTP scale that is modeled after Carstensen and Lang's (1996) FTP scale. I adapted the original scale, for example, by replacing the word "life" with "work life" or "organization". This, however, was only a trial version to gain additional experience on how participants would react to such an instrument.

Research question

Similar to LTV, it is necessary to assess whether individuals have a salient and preconceived notion of ETV. So analogous to Research Question 1a, it is critical to verify that ETV is not an epiphenomenon that only exists when assessed but an extant mental representation of the remaining time in the workforce.

Research Question 2a: Do individuals have an extant, preconceived notion of their ETV?

Again, due to the novelty of this construct, it is necessary to obtain a grounded understanding of the dimension in which the individual may be thinking about the ETV. A critical difference to LTV may be that ETV is ended by an event that is more *volitional* and under the discretion of the participants.

Research Question 2b: In what dimensions do individual think about ETV? What are triggers that lead to awareness? How much discretion do individuals have over their retirement?

The limitation of ETV is assumed to affect the instrumentality of activities that either reach into the future or are rewarded in the future. Therefore, overall motivational force (Lawler

& Suttle, 1973) may be reduced. However, it is currently unclear what future related behaviors may exist that could be affected. Again, the outcome domain is mostly undefined. Therefore, I will investigate what activities have lost their instrumentalities to employees

Research Question 2c: What are the outcomes of a limitation of the ETV? What behaviors are perceived to be lacking instrumentality?

CHAPTER 2:
PROVIDING EVIDENCE THAT LTV AND ETV ARE PRECONCEIVED CONCEPTS BY THE INDIVIDUAL (STUDY 1)

In this phase of the paper I aimed to answer the research questions that were asked in the literature review. It was necessary to answer these questions in order to develop a clearly delineated concept of LTV and ETV before using them as predictors in an empirical study. As a methodology I chose a qualitative interview study. For this dissertation it was necessary to obtain a better understanding of how individuals perceive and interpret the two future time vectors, LTV and ETV. Qualitative interviews are generally merited with being able to assume a more constructivist than positivist vantage point, using the interviewee as meaning maker and interpreter of his or her personal reality of issues at hand (Warren, 2002). In addition, the format of an interview study (allowing a semi-structured interview guide) was useful to uncover those experiential realms that were either not covered by the reviewed theories or were not sufficiently specified. The remainder of this chapter contains the description of the concrete method, the results of the study, and, finally, conclusions that lead into Study 2, a scale development effort.

Method

Participants

Participants in this study were 28 individuals that were recruited using an advertisement in the local newspaper. The advertisement can be found in Appendix A. Participants contacted me either by phone or via email. Once contact was established, I called them back and assessed their eligibility. Participants had to be older than 30 and employed. Later in the recruitment process I had to decline individuals who were employed by Penn State as too many Penn State employees applied. Participants were selected to maximize diversity in terms of gender, occupational background, and employment industry. All 28 participants were currently working;

four were in a state of bridge employment. No participants were fully retired. Age ranged from 33 to 67 years. The average age of the samples was 53.3 years (SD = 8.5). Table 2.1 provides some demographic information of the participants. Please note that of these 28 individuals 6 were employees of Penn State. In Table 2.1 they were not so identified as they all worked in very specific areas of the university outside of education. For example, an automotive technician working for the Penn State Fleet Operations would have been identified as working in the Automobile Service industry. This was necessary as some of the jobs held by the participants were unique and individuals would have been unequivocally identifiable. It is also noteworthy that no minorities were interviewed. Individuals self-nominated for participation and no participants were declined due to racial background. In fact, upon first contact with participants, race or minority status was not assessed at all.

Interviewing procedure

Interviews were conducted either in the author's office, a conference room, or in the office or home of the participant. When participants were visited in their office, it was ensured that office doors were closed and sufficient privacy was provided. Ten participants were interviewed in the café area of a nearby grocery store. This café area was used for afternoon appointments and was large enough to provide sufficient privacy.

Participants were greeted and asked to sign the informed consent form. Then I informed them about myself, that I am a graduate student in the process of writing my dissertation. Participants were asked to be candid and were informed that no personal identifiers would be transcribed and reported. Then a semi-structured interview guide was followed, which allowed me to focus on the research questions formulated above, but also to probe deeper into promising and unique issues. The interview guide is attached in Appendix B. A substantial amount of the total interview time (ranging from 40 to 60 minutes) was dedicated to creating a pleasant

atmosphere. This strategy was deemed necessary early in the interview as the interview questions revolved around very personal issues. Indeed, during the interview participants were willing to share this type of information, for example, details about their health history, fears, and thoughts about dying. This indicates that the interview atmosphere was generally suitable to elicit uncensored statements. During the interview participants were assured that I was aware that very personal questions were asked. After the interview participants were asked to fill out four different scales and explain to me if items were applicable to them or did not make sense. They were asked to explain how long they plan to work and what type of retirement plan they intend to follow. Then they filled out the Future Time Perspective Scale (Carstensen & Lang, 1996) and an adapted version that focused on the ETV. Finally, participants were asked to state the probabilities with which they believed they would reach certain age ranges. As a preliminary step, all interviews were transcribed by the author.

Data Analysis Procedure

The analytic procedure was a *protocol analysis,* a method developed by Giorgi (1975). Protocol analysis emerged from a phenomenological approach focusing on the meaning making and interpretation issues of the individual (Robbins, 2006) and seemed particularly applicable as often affect and emotion-related concepts are assessed. Protocol analysis has been specifically designed to analyze written reports or protocols. Typically, a uniform request is given to all participants, that is, the same interview guide is applied. This was not completely the case in this study as questions were continuously fine tuned and participants were probed further when relevant answers seemed to surface.

In the first step of the analysis the transcripts were read thoroughly, with the intention to understand emotions and thoughts of the participants. In the second step the transcripts were read again, this time with a more detached and professional position of a psychologist (Robbins,

2006). Here, the text is broken down into meaning units (MU), which are separated from the rest of the transcript. In this study most warm up questions were excluded from further analysis. These MUs are understood in protocol analysis as constituents of overarching themes that crystallize in the transcripts. MUs can be one word long or span over several paragraphs.

In the third step, MUs are typically cut out with scissors from the transcripts and organized and then sorted. In my case this was achieved by cutting and pasting MUs into a large Microsoft Access database. For each theme that evolved from the MUs I created a column in the data base. Examples were “Salient time remaining until retirement”, “Health Concerns”, or “Retirement Drivers”. The initial theme list followed closely the topic areas assessed in the interview guide. In several iterations the number of themes was increased. Once a new theme was identified, all previous interviews were re-read and relevant MUs were copied into the datasheet. At the end of this step there was a list of themes for each participant. In case the participant had made a contribution that fit in this scheme, the respective cell was filled with a quote (an MU). If the person did not contribute (i.e., the theme did not exist for this person), the cell was empty. Also, the same MU could show up in multiple themes if it was deemed relevant for these additional themes. All decisions on how to categorize the MUs and what themes to introduce were made by the author. In the following step I interpreted the themes further and moved towards the last step: the synthesis of the themes. This synthesis is presented in the results section of this chapter. During this stage, I identified connections between individual themes, for example, identified structures and systematic relationships between themes.

Results

Employment Time Vector

Research question 2a

The first purpose was to assess whether individuals have a preconceived notion of their ETV and subsequently how individuals conceptualize this time period. For this purpose interviewees were first asked for how many more years they believe they will be working. All respondents, regardless of age and employment situation, agreed that they had thought about retirement and were able to produce an estimate of their potential retirement age. In other words, no participant was completely naïve towards this topic and the fact that retirement may be necessary some day. Even individuals who had decided to continue working showed evidence of having spent time deliberating about this decision. However, in the interviewed sample, there was substantial variability concerning how intensively individuals had been thinking about retirement. In addition, interviewees displayed extreme variability on how much they thought about retirement, how they felt about it, and how they had prepared for it. This variability is described in the next section.

Research question 2b

This multi-dimensional thinking about retirement, which will be discussed in detail below, poses a stark contrast to concepts presented earlier in this dissertation. In the proposed theory section I assumed that ETV can be treated analogously to LTV. Concretely, I assumed that retirement would be perceived as a limitation to work life, just as someone's passing is the end to biological life. I further assumed that the ETV is perceived as a resource that is running out with approaching retirement. However, participants' thinking about retirement went far beyond this narrow concept of time limitation. Concretely, four different categories of thinking about

retirement were identified in the participants' narratives that reflect the variability and complexity of the ETV conceptualization.

ETV salience. The most pervasive theme that surfaced in the interviews was the salience of the ETV. Participants showed strong variability concerning how intensively they had thought about retirement and the end of employment. At the high salience end were participants who were counting down the days or knew the exact date of their retirement. On the other end were participants who virtually never thought about the end of employment. In the middle were participants who knew retirement is coming up but who stated that they are in essence too preoccupied with their job to think much about the end of work. The following quotes present varying levels of ETV salience, starting with high levels of salience.

> ARS: how often do you think about retirement?
> P: Every morning, when I get up, I think: what would it be like if I would not have to get up this early [laughs]. [7]

> I think about retirement every day I wake up and put my feet on the floor cause they hurt [yells, jokingly]. And when I have a patient that is pushing my buttons, I seriously think about retiring [3]

> When I turned 50, that made me realize that I am not middle aged any more. […] You know, we had a meeting with our financial planner and he said it is time to think about it, you have all this in place. Well, I said, I have the dream of 62 and he said you can do that. That is very doable. And then I really started thinking that this is realistic. [27]

> I think about it, it is hard to put a number on that probably half a dozen times a year; often when I am planning a vacation trip. Every time there is a transition going on, ... then ok ... Skiing trip, will I be able to do this when I retire, well I will be able to do that the same how I do it now. go for a week, because I can afford that, but I wont be able to do it all the time any time I need to go to the doctor, ok, how is this going to work [1]

> ARS: The time that is ahead of you, do you ever think about the amount of time?
> P: I periodically think about what do you think am I gonna have enough money you know, ... inflation stuff like that, if I have some financial investments, IRAs, so I am trying to plan, ... the military kind of puts it into your mind, it is going to be here before you know it

> No not at all, I feel my career is still very open. I was thinking about becoming a physician's assistant or becoming a lawyer. I though about going to law schoolbecause of my stroke I cannot do it full time, so.. to go to school part time, it takes about 4 years to get a law degree I think of PA, I don't know, it depends, it depends on what I like [8]

Magnitude of the ETV. Individuals differed very strongly in terms of the perceived temporal distance to their retirement transition. Some individuals reported that retirement seemed very close; others reported that retirement seemed far away. The following statements reflect the feelings of individuals how far away retirement is.

> It is something I haven't really thought about, that much. I mean, I am working on some basic retirement saving, I don't have a date set up, I just notice that this date in society gets pushed out further and further. Who knows what it may be for our generation. I am trying to plan for it just from a financial standpoint. [23]

> So presumably I will be working up towards that, up for 18 or 20 more years between then and now, I will keep on doing what I am doing now, or perhaps be more in management and supervising others [20]

> I am looking at my first official retirement step, somewhere in 2009, this would be in 2 years. I turn 62 next year, and that is when I can start collecting my social security check, and I don't qualify for Medicare until I am 66 [3]

> When I turned 50, that made me realize that I am not middle aged any more. […] You know, we had a meeting with our financial planner and he said it is time to think about it, you have all this in place. Well, I said, I have the dream of 62 and he said you can do that, that is very doable. And then I really started thinking that this is realistic. [27]

> ARS: are you counting down the days?
> P: I am not doing that, the short timer calendar like we did in Vietnam. I am not putting that in so much. I told my boss Jan 9th that would put me through 2008. My company matches 6% of my 401 if I work 1000 hours per calendar year. So they would have matched that, so that is why January 9th is a good date. The money is all in, I made my bucks, I am ok. My first retirement from the Air Force, I tried to do that in 1990, but then Desert Storm occurred, put a freeze on all retirement, I had to stay 2 more years. Ok easy job, 20-22, ok another 2 1/2 percent for my retirement, I can take that. Same thing here. I am ok. But I am looking towards 63. That is where I am shooting. [3]

> I think the best part of retirement is planning for it. its like planning for a trip I have a counter on my computer, it is counting down the days I got 588 counter days that I have to work I am having fun with it [2]

Arguably, in these examples the ETV range is to a certain degree a function of chronological age. However, as I have argued previously, age may not in all cases be a perfect index of the time that is remaining until retirement as many individuals retire with a different age. However, participants did not only report a number of years as an expression of the ETV range.

Instead, some of them reported that their ETV feels short or that they feel that retirement will happen very soon.

> P: I haven't been spending much time saving and I have less and less time to do that. […] While I am getting older I have less and less time to make my future secure. Another 30 years – this seems to be a short time.
> ARS: What makes this seem short?
> P: Just because the older I get a year goes by so much more quickly. Honestly, I don't know where this Summer went. […] Months go by and I don't know what is happening. As that takes place, I think the first 38 years have flown by, the faster time flies the less time I have left being in this job.
>
> I kind of feel that the pressure is on [to prepare financially], and that I need to figure something out over the next 16 years, to make sure that I am financially set yeah, the pressure is on.

Therefore, a certain time interval that is left may feel short or long to an individual. Therefore, it may be necessary to differentiate the objective number of years that will pass until retirement from the perception whether this time interval is long or short. The latter reflects emotions and cognitions about the former, which is objective information.

ETV Precision. Finally, the responses suggested that participants varied substantially in terms of the precision of their retirement transition planning. This dimension, labeled *ETV precision*, reflects the length of the time period during which the individual believed that the retirement transition would begin and finish. To illustrate, an employee may believe that he will stop working full time at 62 and continue to work half time until he is 66, with the intention to bridge the time to his Medicare eligibility. Thus, the retirement transition spans a total of about 4 years and is an example of relatively low ETV precision. In contrast, another employee may plan to fully retire at 60, when retirement and health benefits become available, yielding two mutually exclusive states of being fully retired or fully employed. The concept ETV precision reflects the increasing tendency for "soft" retirement, that is seeking bridge employment or other transitional retirement approaches (Hansson et al. 1997, p. 114).

The following quotes presented in Table 4 reflect the varying levels of ETV precision displayed in this sample. It is noteworthy that among the interviewees only one considered a "hard" retirement, and even in this case the option to volunteer was mentioned. A motivator for soft retirements was to continue deriving desirable outcomes, such as structure, social contacts, feeling of being needed, and financial income. At the same time these work arrangements would allow the individual to avoid negative outcomes such as work stress and work to family conflict. One participant described this like this

> If I decided that I don't want to pull out completely. We have a number of retired administrators that come in a couple of days per week and they love it and they love it because they get the best parts of the job and then they walk away from it - they don't take it home, like they used to and like I do it is a set assignment [27]

For other participants the possibility of fading out or bridge employment was a "back door" that would allow them to remedy possible negative effects of retirement, such as the lack of structure and the absence of a purposeful activity. Table 2.2 displays the various levels of ETV precision.

Retirement apprehension/anticipation. Finally, participants differed strongly concerning their desire to retire. Some individuals were looking forward to retirement – so much that they were counting the days. Others thought about retirement with trepidation and hesitation. Some people reported both feelings, being somewhat apprehensive of this transition but also looking forward to it.

> I think it is out there somewhere, that it will be fun when I get to that stage but I think there is some trepidation - I always had a job since I am a little kid I worked ever since I was age 16 I always have been productive, enjoyed the structure of doing something. So there is trepidation, - that I wake up and don't know what to do, who needs me and who cares if I exist anymore [24]

> Because, ok, I don't know what I want to do when I quit, and I don't know if I am around the house if I am going to be a slug. By coming in I can still ... I mean I have a lot of hobbies but I could still ... It might be best for me to keep coming in and staying on a schedule. And I still could make some money [6]

> But I do have concerns that this will be fun for about a month, and then I am gonna wonder what to do with myself I am not going to be ... I will be ok financially, but am not going to be wealthy, I could not travel all the time so I have some concerns, about what i am gonna do with my time [1]

> I have very high energy, I mean I get tired, but I would be bored. I tutored from the end of school to the last week in July my family came the first week of August, the second week of august, I had in service for a couple of days. The second week of August I went to the beach, the fourth week I was bored out of my mind, I thought I need to get to school I was sitting around, thinking is it time for the price is right, or to get the mail and where can I go with my friends, I have too much going on in my mind [8]

> We have a lot of customers up there this town is loaded with retired, wealthy people, and you see that. I and I say, I want that, too. When you see how they come in, they are playing golf, they are going away for three months to Aruba you know, ... god when is this gonna happen to me [10]

At least five participants were looking forward to retirement very much as it was the long hoped for relief from their stressful jobs.

> We have a lot of customers up there. This town is loaded with retired, wealthy people, and you see that. I and I say, I want that, too. When you see how they come in, they are playing golf, they are going away for three months to Aruba you know, ... God, when is this gonna happen to me [10]

Of the 28 participants 10 indicated clearly that they approach retirement with mixed feelings and that they are not entirely sure if it is the right thing to do. As I will delineate below, this apprehension or anticipation of retirement might influence how individuals conceptualize their ETV. I am labeling this dimension *Retirement apprehension/anticipation (RAA)*. This dimension reaches from complete apprehension and avoidance to pleasant anticipation.

Research question 2c

The third purpose of this qualitative study was to evaluate whether the decrease of ETV over time affected work-related behaviors. Please note that the differentiation between ETV magnitude, salience, and precision was introduced after the interviews were conducted and that no specific questions about these sub-constructs were used. Therefore, in this preliminary

analysis responses will be organized by the concrete time remaining until retirement which does not differentiate between magnitude, salience, and precision.

The following procedure was used to elicit responses concerning how ETV affects their work-related behavior. First, participants were asked whether the end of their work life has any effects on their current work behavior. Second, if participants negated the first question, they were asked the more direct question whether certain behaviors are not perceived to be useful any longer. Finally, if participants did not know how to answer this question or negated this question, they were presented with a short vignette. Participants were told about a fictitious nurse, who had to make the decision of whether to get additional training to be a critical care nurse. She decided against this training, because the effort of taking certification classes was too much and did not justify the few years that she would be working as a critical care nurse. Participants were then asked if they had similar thoughts in the past. Typically, this vignette was suitable to the participants to explain how the ETV has an effect on certain classes of work behavior, and participants were able to impose this template onto their personal situation. Of the 28 participants four reported that the length of the potential pay-back time played a concrete role when considering whether to engage in training or further education. The following individuals reported to feel a restriction of the pay-back period by a curtailed ETV.

> ARS: did this updating maybe decrease on a certain point driven by the consideration that you're gonna phase yourself out?
> P: yeah definitely, honestly, in the beginning I was up on everything in the lab and I was a med tech, but as the years went by I became more business minded. [10]

> ARS: Are there any goals that you cannot meet because the 10 years would be too short for that
> P: I don't think goals that I ever had for myself, there are things that I would do, if I were younger.
> ARS: What would you do?
> P: Get an administrative certification. If I were 20 years younger I would definitely get my principals and supervisors certificate … definitely, which would qualify me for any principal or director position […]and I might do that if I were 32 instead of 52. At 52, I don't want to go there.
> ARS: Why not?

> P: […] it is too short to make the sacrifice, and to put myself through it, to sweat the bullets; it is not worth it. […] 30 to 40 years to use it is very different than 10 or 20 it would be more of a return on investment, shall we say there is more ROI when you are younger [27]
>
> Sometimes, I consider should I pursue a graduate degree, and it is not high in my list for exact these reasons. If I were a little younger I could imagine doing this you can do the math, ... and argue to enroll in the spring bust it out and is it because I am this age, if I was younger I have gotten other certification, I guess a graduate degree would be a pretty big chunk [20]
>
> Why don't you want any training I am going, man, in one year and seven month. I am not interested, there is no interest, I mean what am i gonna do with it? My time is up, I just got to make sure that people take my job and I gotta train them. I have to leave a legacy. You know 'XY did a good job', you know what I mean I don't want to burn any bridges I just want to be happy. But I said 'if you need me, I am just 3 miles away so if something comes up just call me in', I don't care. [2]
>
> I am a mainframe programmer, there aren't a lot left. I am a good one. I program in a language called Natural, which you won't find on PCs it is the kind of programming you use to process [large amounts of data] and, there are fewer and fewer. In 10 years, there won't be a main frame computer […]. I probably will not have learned the skill set required to operate like that.
> I am not doing much training really, that is something that my boss has determined and I agree with it. [He says]: 'ok XX, we got this seminar coming up on a whole new way to program, that is going to be put in place in the next 6 years, I am planning to send the younger programmers, I am not planning to send you. And I say: 'that makes perfect sense to me ZZ, by the time you will need this I won't be here.' [1]

One participant reported considering his ETV but assumed that there would be enough time to make use of his education.

> If i don't do it soon... Yes, if I don't get my degree before the age of 50 it may not be as lucrative ... maybe ... I am not sure […]
> ARS: do you think you would have enough time to make these efforts pay off?
> P: I think so ... to draw SS I have to be 67, so I can retire with 67, I might hang out to be doing that job if it is not demanding, so maybe I am 70 when I retire. I am trying to ... so, I think it would pay for itself,

The responses demonstrated that a limitation of ETV mostly impacted the decision to seek training or education that would be useful for a participant's long-term career and job opportunities. No responses indicated that developmental activities with shorter pay-back periods were affected. This may be due to two reasons. First, the interview script used education as an example, and interviewees may simply not have been able to access other activities outside of this

realm. Second, other work behaviors may have shorter pay-off periods that may be fully realized within the ETV of an employee. For example, many participants had to obtain certifications on an annual basis. Participants may simply not have perceived any time limitation concerning pay-back. Finally, most of the highly frequent training programs were mandatory and, therefore, the participant did not have any choice whether to participate or not.

In addition, this interview study did not inquire about attitudes, such as job satisfaction, organizational commitment, job involvement, or motivational variables. In the original conceptualization of ETV (one that was characterized primarily by its limitation), these variables were unlikely to be affected. However, the more complex representation of ETV and the dimension of apprehension/anticipation which emerged in these findings produce a useful framework to derive concrete and testable hypotheses.

Results for Life Time Vector

Research question 1a and 1b

A central objective of this interview study was to investigate whether LTV is a conceptualization of the future that individuals have access to and whether this conceptualization is preconceived. In order to establish this, individuals were first asked for their opinion about the length of their TRL. The analysis of the interview transcripts indicated that all interviewed participants, regardless of age and employment situation, were able to make a statement about their anticipated life expectancy and subsequently their TRL. Most participants combined their personal health situation with their family history. This estimation process ranged from simple assumptions ("my parents lived into their 80s, and I anticipate so will I" [1]) to more complex analyses ("yes, I have family that died earlier but also later – I also look at the lifestyle. I am in better shape, and in modern medicine all you need is a body and heart [14]"). Only two

participants deviated from using family history information and instead used personal health and perceived average life expectancies to determine their own life expectancies.

Although all participants could readily make statements of their personal life expectancy, this information is not sufficient to determine whether this expectancy was generated ad hoc or whether this expectancy had been produced prior to the interview. For this purpose respondents were asked if the finiteness of life and their life expectancy had been previously on their mind. The responses indicated two things: first, a central dimension on which individual conceptualize their LTV is its *salience*: individuals differed strongly on how much time they spend thinking about issues related to mortality and the time remaining in life. Second, these thoughts were triggered by certain experiences or occur in certain situations, reflecting Karp's (1986) taxonomy of "reminders". Below is a list of triggers that were associated with the salience of the LTV. Notably, all responses could be categorized using Karp's schema.

The first factor was <u>generational reminders</u>, which involve an individual's position relative to preceding and following generations. Individuals are reminded of their fleeting lifetime when they realize that following generations are reaching key age stages (graduation, marriage) and older generations are dying or getting sick.

> I really never thought about it until last spring when my parents really started to have some health problems and I had ... they live in Colorado and I had to make several trips out there. I never had to do that before. And all of a sudden all four of us kids had to parcel up the duties to help my parents. That really got me thinking about it. I was looking at them ... they are in their late 70s but they were so much older than what I want to be when I am their age so did [27]

> To be honest, I never think about my age, but my kids make me aware of it, because, when boys get to be 8 or 9 well, they are very concerned with age. When they see their friends … or anyone, the say: 'tell them you are my grandmother', and I say, no I will not, I will tell them I am your date [laughs] that is why I have become aware of my age, I don't think of myself as grandmotherly …[13]

A second class of reminders was *contextual factors,* such as being among the oldest individuals, either at work or within their social network.

> No, I wouldn't say that, I do think about my mortality, it is kind of macabre, I must admit that I do think about it. But ... what will happen … what I am seeing now, having grown up here, there are an awful lot of people that are my parents' age and they are now dying and they are people that I knew, it is kind of hard to ignore, XX is gone, ZZ is gone, there are a lot of people that I grew up with and that slot that I had for people who are old, is disappearing and old people becoming people who are dead, leaving that people who are old slot open for me [laughs] [1]

> No I have thought about this, because all of my relatives are dying. My husband died at 75, my mother died at 87, I had an uncle die 2 years ago. I have one aunt and uncle left in our family. Naturally you think about death more because you are loosing more and more. You are reading the obituaries more than you are reading the birth announcements. [8]

A very common factor that made individuals aware of their finiteness was the *observation of deaths* among friends or family members. This vicarious experience of finiteness was very common among individuals in their 50s. Even younger respondents have had various experiences of other people's deaths that had made them aware of life's finiteness. For example, the youngest participant (33 years) was a medical doctor who had been repeatedly confronted with dying patients. The second youngest participant was an administrator in a hospital who was involved in the patient admission process and had similar encounters with terminally ill patients.

> Well, I think about death a lot, not necessarily what age will I die, but, I suppose it is because … it is ... for someone my age I had a lot more experiences about death than other people. My boyfriend's son's mother died in her 30s. It is very much a part of our every day existence [8]

> My wife and I talk about this on a regular basis. She works for an assisted living home for the elderly. Naturally, the topic comes up quite frequently. [26]

> I mean I had several friends die from cancer and some family members about the same age. I read my hometown newspaper and I see people dying that I went to school with. You can't dwell on it but you can be thankful and realize that it is out there [6]

However, the most dominant factor that was mentioned as the driver of thinking about one's own life expectancy and one's LTV was *bodily reminders* (Karp, 1986). Bodily reminders are all those physical signals that indicate that one's body is aging and beginning to show shortcomings. Individuals who had experienced diseases reported the most

systematic thinking about the finiteness of life – especially if they had suffered from life threatening diseases.

> ARS: to what age do you think you are going to live?
> P: About 60 or 64. I don't see myself going much beyond that.
> ARS: How do you come to that conclusion?
> P: I had a massive stroke and with this stroke your chances of having another one drastically go up. I will probably die of a stroke or die of complications. You know..
> […]
> ARS: The finiteness of life, is this on your mind?
> P: Oh every day!
> ARS: In what situations?
> P: My mother died in her sleep, my father died of esophageal cancer and it is on my mind that I will die in my sleep. Will I get up in the morning? Is it palpable? Yes ... and I am only 51!
>
> A year ago I had breast cancer so that puts a big question mark out there. I mean hopefully everything is fine but ... I don't know … I am shooting for 80 but I don't know. [7]
>
> I am a cancer survivor, Oh gosh, so I certainly have thought about dying and my mother died from the kind of cancer that I had, and it has been in remission and so, sure I thought about it. [27]

Notably, there was substantial variance in the salience of LTV. Some individuals reported not to think about their LTV at all. Common to them was that they did not report any instances of "reminders". This observation suggests that some confrontation with mortality and life's finiteness is necessary to make LTV a salient factor to individuals. Notably, participants with histories of cancer or other severe illnesses showed the highest level of reflection and salience of LTV.

> [My illness] made me realize that we really aren't going to be here forever, I never had thought about death too much. At that point I thought a lot about death and I talked with my husband about it … how to raise a 7 year old on his own. Because the surgery was very safe, but you never know what could happen. We had those discussions. I also realized that life is too short to put off some things. Things that I had been putting up with that point in some of my personal relationships. So I made some changes there, too. [27]

The responses indicated that individuals vary substantially concerning how salient their LTV is to them. Analogous to the previous section I label this dimension LTV salience.

LTV magnitude. A second dimension on which individuals conceptualized LTV was the length of the remaining time. Similar to TRR, the anticipated time remaining in life (TRL) was strongly influenced by age. In fact, age and the difference between current age and life expectancy were highly correlated ($r = .78$; $p < .01$). However, this is to be expected. Instead, I argue that in addition to the rationally estimated length of remaining time based on family and personal health history, individuals also have a psychological representation of this time interval. This interview guide was not designed to trigger the perceived magnitude of the LTV so no direct quotes are available. However, some comments indicated that people may feel that LTV is more or less limited, despite the fact that they are comparatively young. Participant 6 expressed, for example, that the length of his life feels to a certain degree uncertain.

> on some days I am thinking, well, maybe they didn't get it all, maybe it will come back ... so maybe it is finite, especially when I see the friends that died of it I don't think about it very long but I know it could happen [6]

Some participants explicitly explained that they perceived to have little time left in life, describing the notion that time may be running out. For them, some life goals may not be reachable anymore.

> you get such a short time, there is so much to do and not enough time to do it all you have to live for every day, and when bad things happen you have to learn how to role with them. [10]

> yes, I mean ... its not that I worry about it, I don't dwell on it but I have to realize that that's the ... when you are 30 you have 60 more years and when you're 60 you have 30 more years [7]

> And then I go see my father, then I think, gosh, in 25, 30 years this is going to be me, if happen to live that long. So it makes me even more interested in preserving my health now and preserving my family history and fulfilling my dreams and not living until I am 60 or 70 years old, when I am starting to decline. Whatever I want to do I have to do it now, publishing books, while I am still health and sharp not keep slaving away at a job

> and then keep thinking, I don't feel very good anymore, do what is important while you can do it [26]

These quotes provide some evidence that the rationally estimated time may not be enough or is too short. Given this observation, it may be necessary to introduce a psychological variable that captures the mental representation of the time remaining in life.

Research Question 2c

A third purpose of this qualitative analysis was to explain and identify *what* changes occur when LTV is perceived as being restricted. As mentioned above, LTV is for many individuals a salient variable and individuals are aware that their lifetime is limited if they have experienced any of the reminders (Karp, 1986) described. To obtain a better understanding whether LTV salience has any effects on work related behaviors, individuals with salient LTV were compared to individuals without salient LTV. For this purpose experiences with reminders, as described above, were used to split the participants into two groups of individuals with high and low LTV salience. In a second step, I read through transcripts and identified what priorities respondents have. This information was derived from participants' reports of what activities, behaviors, or situations were reported as being valuable or important. Many responses resulted from the probes, "what is valuable to you today" or "what has become valuable and important that was formerly not important to you". It is noteworthy that many participants spontaneously reported about retirement plans when talking about priorities, essentially describing what is important to them and how they will put it into action during their retirement. Some participants were not able to clearly identify what they value or what is important to them. For these individuals I recorded priorities that they identified for the future.

Table 2.3 displays the individual priorities. The table contains four cells. The upper left cell contains individuals with salient LTV, who are younger than 50 and have not

reached the "decade of reminders" yet. On the right are younger individuals with low LTV salience. The lower left quadrant displays responses of high LTV salient individuals who are older than 50, and the lower right contains responses of older individuals with low LTV salience. Once priorities were identified, they were clustered into the subgroups *grandchildren, travel, flexibility, new frontiers, no plans, and others*. These groups are not distinct and certainly not exhaustive and they are presented here solely to provide a rough categorization of observed plans. It is noteworthy that the differentiation between LTV salient and LTV non-salient was widely confounded with age. Naturally, older individuals were more likely to have experienced any of Karp's reminders than younger individuals. However, three candidates deviated from that rule and may be especially insightful.

Effects of salience. First, younger participants predominantly showed the goal to establish themselves in their jobs – regardless of whether they had a salient LTV or not. This was especially strong for two participants in their 30s who were in the process of reaching higher levels in the organizations. Some of the participants also reported to value family life and their young children; however, these individuals also clearly stated that their jobs are the most important or a very important component of their lives. Even if advancement in the organization was not central and individuals did not anticipate having a steep career trajectory, being employed and securing income and benefits were central priorities. As displayed in the upper left quadrant, two younger individuals were classified into the LTV salient group. However, their goals did not seem to be different from those of their peers with low LTV salience. This led to the conclusion that in younger age ranges LTV may not be affecting individual values. People may have a salient LTV, but, since LTV is likely to be long, it has no direct impact. This observation indirectly supports the differentiation between LTV salience and magnitude postulated above.

Of great interest for this study was the comparison of older individuals who have salient LTV with older individuals who do not have salient LTV. Participants with salient LTV reported a change in what activities and behaviors they value. At a general level their values shifted away from job related goals towards non job related goals. An often mentioned activity was spending time with grandchildren and with the families of the participants' children. One participant reported to be quitting his job because his work hours were prohibitive to interact with the newly formed descendent families. Similarly, older individuals with salient LTV valued flexibility more than their counterparts without salient LTV. Interestingly, flexibility was rarely valued as an opportunity to evade work but as an opportunity to have time for other valued activities. One participant identified the desire for free time as a concrete contrast to herself in the past. Whereas in the past she was trying to prove herself and advance in the organization, she prefers today to spend time with her husband. Another valued behavior of LTV salient participants was traveling. Many individuals did not report concrete travel plans, but they valued the concept of having free time and complete discretion over what they are doing.

For three participants a value change can best be described by one of the participant's plan to reach "new frontiers". For these individuals, it was a priority to engage in completely new behaviors. One participant described herself as fully dedicated to her job but she was also looking forward to retirement. She regarded retirement as an opportunity for her to discover "new frontiers" and engage in novel activities, describing it as "one door closes and another door opens". A second participant who fell into this category explained that he would use the future to finally write more books, while third and fourth participants planned to expand or create small businesses. For these individuals, these expansive activities were engaged in despite their LTV salience. In other words, these individuals were eager to use the remaining time in their life to engage in expansive activities that were also suitable to produce meaningful experiences.

In contrast, the few older individuals who were unaware of LTV reported that they want to keep going the way that they were going at the moment of the interview. In other words, they did not perceive the need to change or alter their behavior in any way. They predicted their lives to be proceeding in the same trajectory. A very illustrative example was a 59 year old participant who was in the process of expanding a recently created business. This participant expressed that he is never thinking about the finiteness of the future. Instead, he underlined that he perceives the future to be boundaryless for him. Three other participants did not show similarly expansive goals, but they did not show any changes in behavior or any other changes in priorities.

In sum, there is some indication that the development of an understanding that one's life time is finite may be associated with a shift of priorities. The participants in this sample showed overall a tendency to engage in emotionally meaningful events, such as spending time with the next generation, but also by traveling or following one's calling or passion. This shift is in accordance with central tenets of socioemotional selectivity theory (Carstensen, 1998) and also was reflected in the previous research of Karp (1988). The particular finding here may allow developing hypotheses that more specifically test what work-related changes may occurs.

Gaining a better understanding of how people think about LTV

After the "what" or the concrete kind of changes have been described and sketched out, a second analysis of the responses was performed to identify the *why* and *how*. Specifically, the previous analyses leave open whether age or LTV restriction was the critical driver of value changes. Although there were some older participants who were unaware, data overall suggest that value changes are driven by age differences. Older participants were generally aware of LTV, but younger participants were generally unaware. Therefore, the responses were repeatedly read and coded for statements that potentially reveal causality between LTV awareness and changes in values. The following responses were either reactions to the

probe “does the finiteness of LTV have any effects on you” or were responses in which participants spontaneously revealed this information. The overarching theme in these responses was that individuals realized that life will not go on forever and that time is fleeting.

> You get such a short time, there is so much to do and not enough time to do it all you have to live for every day, and when bad things happen you have to learn how to role with them [10]

Some participants went further and expressed their insight that the finiteness of their LTV implies that they will not be able to delay certain activities forever.

> And then I go see my father, then I think, gosh, in 25, 30 years this is going to be me, if happen to live that long. So it makes me even more interested in preserving my health now and preserving my family history and fulfilling my dreams and not living until I am 60 or 70 years old, when I am starting to decline. Whatever I want to do I have to do it now, publishing books, while I am still health and sharp not keep slaving away at a job and then keep thinking, I don't feel very good anymore, do what is important while you can do it [26]

> A part of retiring at 62 is that I have some time to enjoy traveling and do other things. Cause I have watched relatives and other friends who didn’t get to do those things. A friend got killed in an accident last year and they had just retired that could happen anytime [27]

> ARS: does this affect you in daily life? P: I think this is the reason why did not want to do a whole lot, until my 60s. I want to do things that I really like, like my dad did. Those people who say that they gonna work till they are 70 or 75 - I admire them, but I am not doing that I saw what happens, ... I admire them ... Joe Paterno… to me if there is a desire to do a job - good for them. I have too many other things that I want to do.

> It has, in that not so much in action but in my approach to life. I don't take life as serious as I did before, I get more enjoyment out of life now and I really am more concerned with living in the moment than looking off into the distance
> Ah, I try to do something every day that I genuinely enjoy. And luckily for me that often requires little or no money you know it could be from playing with my animals, to walking in the woods, reading, whatever... and, you know I see so many people who are caught up in making money I drive an 18 year old Honda…

> I don't think about it consciously about it but in the back of my mind, but if I had the choice between going out with a friend and cleaning my house, and maybe in the past I might have done the cleaning, but now you do the things, you know that you enjoy doing the routine stuff can wait. […]
> yes, I mean ... its not that I worry about it, I don't dwell on it but I have to realize that that's the ... when you are 30 you have 60 more years and when you’re 60 you have 30 more years [7]

These responses provide some support for the socioemotional selectivity theory (Carstensen et al., 1999). These responses describe very clearly the participants' reasoning that, since the future is limited, meaningful events need to be performed now. In these cases, this meant primarily ceasing to work in order to travel. Carstensen and her colleagues use a wide definition of emotionally meaningful goals. She describes them as activities that produce positive affect and the feeling of meaningfulness immediately and not in the future. These activities do not produce positive affect through other mediators (e.g. obtaining a degree to earn money to eventually enjoy a vacation) but gratify the individual themselves. In this regard, the responses presented here provide some support for SST, even though not all participants with salient LTV reported such effects. However, I argue that this may be due to the exploratory nature of this interview study and due to the fact that these contingencies may not be available to individuals through introspection.

Conclusions for LTV and ETV

This qualitative study was particularly useful for obtaining a better understanding of the new concepts of LTV and ETV. For both constructs it became apparent that individuals vary concerning the salience and magnitude of the time vectors. This observation posed the question whether the strength of the salience or the level of magnitude affects the outcomes discussed previously. Therefore, after the qualitative study it became necessary to revisit the literature and revise the conceptualization of LTV and ETV, as both may be more complex than previously assumed. Whereas previously I assumed that individuals may have long or short time vectors, I now argue that, first, the salience of these time vectors may vary and, second, that individuals may differ in their mental representation of the length of a particular time vector.

Time vector salience

Time vector *salience* reflects the intensity with which an individual thinks about ETV. Participants clearly differed in terms of how aware they are of retirement and how much thought they invest into retirement. Previously, I assumed that individuals may be aware or not that their time vectors are finites – following Karp's (1988) notion that individuals may have been reminded or not. However, especially the interview responses on LTV salience indicated that substantial variation in salience exists. Conceptually, time vector salience is similar to mortality salience. Mortality salience is generally defined as the awareness of one's future death (Rosenblatt et al., 1989). ETV salience is a critical variable for this study because without salience, it is unlikely that the retirement transition has any effects. If the employee never thinks about the retirement transition and is generally unaware of it, no effects of this variable can ensue. Terror management theory suggests that individuals are generally aware of the fact that they will die. However, effects of this knowledge are stronger when mortality is salient (Martens, Goldenberg, & Greenberg, 2005; Wisman & Goldenberg, 2005). Similarly, I argue that the LTV and ETV limitations will have stronger effects for individuals for whom this event is salient.

Time vector magnitude

The second dimension, time vector *magnitude,* reflects the psychological representation of the objective time that is left. Most participants had a plan of when to retire, or a rational estimation at what age they will die. Life expectancy was calculated (in most cases) using various information, such as personal health condition, family health history, and anticipated advances in the medical field. Retirement dates were determined by availabilities of social security, health insurance, and other scheduled events. Thus, most individuals had a fairly well defined and *rationally* calculated time window for both vectors. To facilitate discussion I label them time remaining in life (TRL) and time remaining until retirement (TRR).

However, some participants also presented cognitions or emotional reactions concerning whether this time interval feels relatively short or long to them. In other words, a certain time interval may have an objective length, but individuals may differ whether they perceive this interval to be long or short. By the same logic, individuals may differ whether they perceive the endpoint to be approaching soon or in the distant future. Thus, it is not the physical value of the time left, but the mental representation (as short or long) that is the psychological variable in operation. This notion is not entirely new: prospect theory (Kahneman & Tversky, 1979) postulated that the physical amount of a commodity (e.g., money) is reflected in a mental representation, which Kahneman and Tversky labeled "value". In sum, the physical time that an individual foresees may not be entirely overlapping with the feeling that this is a long or short time, or, more concretely, whether retirement is soon to happen or whether it is temporally far away. Research by Bluedorn (2002) indicates that individuals may differ in terms of their *temporal depth,* that is, the perception of what time distances are short-term or long-term. For example, over 55% of his participants defined three months or less as short term, but over 25% defined one year or more as short term, indicating interindividual differences in how individuals interpret time intervals. Subsequently, time vector magnitude may be determined by the physical time interval but also by the idiosyncratic temporal depth that an individual has. In sum, there is some support for the idea that time vectors may operate as a psychological construct, which is affected by TRL and TRR but also by idiosyncratic interpretations whether these time intervals are short or long.

Development of new scales

Time vector salience and magnitude may be two important properties of LTV and ETV and may be drivers of value changes as they reflect the strength of the limitation and the intensity with which an individual thinks about this. Therefore, in Chapter 3 I develop measurement scales

that assess the factor structure of LTV and ETV salience and magnitude and their relationship to other, relevant scales.

Effects of LTV and ETV on work related outcomes

I previously discussed that emotionally meaning activities may increase in value while knowledge relevant goals may decrease in value. However, it was undetermined what concrete activities could be affected. Similarly, it was undefined what specific behaviors would loose their instrumentalities when ETV is curtailed. For both variables, the interviews delineated what attitudinal and behavioral domains could be affected. Individuals with salient and curtailed LTV demonstrated interest in travel, children, grandchildren, and other family related activities, while obtaining higher career levels or job-related success was less important. Similarly, individuals with curtailed ETV expressed that the instrumentalities of certain behaviors had decreased: some individuals chose not to engage in training and education as the time to reap a return on their investments was limited.

The bandwidth of recorded behaviors that shifted as a result of shrinking LTV and ETV was admittedly small. This may be caused by the design of the interview, as I mostly tried to verify the effect on training and education. Since this domain was not thoroughly explored, Study 3 will aim at finding relationships between LTV, ETV, and work related behaviors and attitudes.

Limitations

The conclusions that can be drawn from the qualitative study may be limited due to three reasons. First, the interview was initially designed to provide evidence that LTV exists as a preconceived notion. This central task somewhat overshadowed the entire endeavor and drew interview time away from a broader and more exploratory set of questions. Second, the

participants were sampled in order to maximize variability. That means that age ranges, occupations, and educational backgrounds (among others) varied strongly. In consequence, themes that were common to certain individuals were hard to detect, as they may not have repeatedly surfaced in the interviews. Third, the interview guide was naturally written in the beginning of the study, whereas many of the theoretical insights were gained after the study. Although interviews were transcribed parallel to the interview process, it was after the interviews were over that the totality of all transcripts were read, coded, and simultaneously investigated. Therefore, new theory developments (e.g., the differentiation between magnitude and salience) were not reflected in the interviews.

Tables Chapter 2

Table 2.1
Demographics of Study 1Participants

ID	sex	Age	Occupation	Industry	Education	Kids	Grandkids
1	male	59	Programmer	IT	Bachelor	No	No
2	male	60	Accountant	Manufacturing	Bachelor	Yes	Yes
3	male	61	Physiotherapist	Health care	Bachelor	Y	Y
4	female	58	Nurse	Health care	Bachelor	Yes	Yes
5	female	51	Lecturer	Education	PhD	No	No
6	female	54	Laboratory Director	Research	PhD	Yes	No
7	female	60	Lab Technician	Research	Bachelor	Yes	No
8	female	67	Para educator	Education	Diploma, 3 years	Yes	Yes
9	male	59	Dentist	Healthcare & Others	Professional degree	Yes	No
10	female	50	Office manager	Service	Bachelor	Yes	No
11	female	61	Bank teller	Financial / Various	Bachelor	Yes	No
12	male	61	Manager (retired)	Research	M.A., B.S.	Yes	No
13	female	60	Therapist	Mental health	M.A.	Yes	No
14	male	36	Consultant	Financial	Bachelor	Yes	No
15	male	57	Manager	Government	M.A.	Yes	Yes
16	female	38	Marketing Director	Health Care	M.B.A.	Yes	No
17	female	50	Manager	Service	M.A.	Yes	No
18	male	47	Scientist	Research	PhD	Yes	unknown
19	male	52	Production techn.	Manufacturing	Associate's Degree	Yes	No
20	male	48	Network engineer	IT	Bachelor	Yes	No
21	male	42	Pharmacy techn.	Retail	Associate's Degree	Yes	No
22	male	44	Sales Associate	IT	Bachelor	No	No
23	male	33	M.D.	medical / health care	M.D.	No	No
24	female	53	Director	Service / Non profit	M.S.	No	No
25	male	43	Manager	Financial	Bachelor	Yes	No
26	male	50	Sales Associate	Retail	Bachelor	Yes	No
27	female	52	Mental Health Prof.	Education	M.A.	Yes	No
28	female	55	Teacher	Education	M.A.	Yes	No

Table 2.2
Examples of varying ETV precision in Study 1

ID	*Age*	*Retirement transition plan*
Hard retirement		
1	*59*	*I want to do some volunteer work, but I want to be a little careful, cause after ... 4-8 hours a week is probably enough, because some people get involve so much with volunteering, they don't enjoy retirement; they don't enjoy it.*
Continuing same career		
6	*54*	*Yes, actually, some of the other directors, they are going to a part time model, ... easing out like maybe only 3 days a week […] we would still manage and do the job, and just not be around as much this is just in the back of my head. I don't know exactly when I would do that*
8	*67*	*yes, it would be voluntary. And it wouldn't be a total retirement, because I [work] at my home after school, three nights a week. I have been doing this for 5 years. So even if I retire from my real job I would work for another year. So I wouldn't be fully retired until I am seventy [8]*
27	*52*	*The other thing, you can always substitute, if a XXX is needed I could go in and substitute for a couple of weeks. There would be opportunities. Also, YYY is looking for part time XXXs. There will be opportunities*
11	*62*	*I probably don't view myself as having a career in the future, but I also don't view myself as ever not working, in the notion of getting dressed and going to work I think this keeps you alert*
Bridge employment		
7	*60*	*I never worked in a place - do you know Wegmans? I keep thinking if I could work there for a few hours a week just to see what it is like."*
		I will say this: Not doing it [going to work] for a while will be absolutely fine as well. Right now I don't have a clue. I wouldn't want to bet any money what I will be doing 12 month from now but I would bet that I will be doing something. I have some things I'd like to pick and choose from, they might include teaching.
No end / new full size career		
19		*I have 1000 things to do, maybe start other businesses, expand the ones that i already got but I am not gonna sit in my rocking chair, I am only moving ahead, not thinking about the olden days, but only about the future*
9	*59*	*My main focus is to get my second business well known. We [business partner and wife] have been trying to establish this business for the last ten years. Last year we ramped it up and got venture capital.*

Table 2.3
Overview of priority changes among participants

Age group	***Aware of LH (salient LH)***	***Unaware LH (LH not salient)***
Age: Below 50	*Work is a big factor in my life just because of the amount of time it takes up home and work is hard to separate, when i am reading at home, journal, I am taking some work home i am not done at 5 [23]*	*My goal is not to be the worker bee, you wanna move up the chain so people are working for you. My goal is not to be president of XY. My goal is to be … to move from a consultant position to a manager position ... overall moving up that ladder [14]*
	I would say, my priorities have shifted, being on my own with my son I have him all the time, he doesn't see his father, so I have no breaks from that, so my social life has changed something that used to be important - I was quite the partier. I find myself stopping and just sitting down with a puzzle or read a book and don't worry so much about getting stuff done the more time is limited the more precious it is, the more you prioritize the things that matter and that is not to say I am not prioritizing work but how I perform is a part of my identity and my self-esteem, it is a balance issue, this has to be an essential part of who I am [16]	*I have two small children at home, and people keep saying they are only small, they are only little for a short time where ok, [unintelligible] but the analogy I want to bring is that they are only young and kids for a short period of time, and you need to enjoy the time with them and all that stuff a and life is the same things, you have the things that bogg you down but you need to enjoy what you can [21]*
		my job is important, very important, I guess, my profession is important, and I need to work and i want to be involved in the community, knowing people, helping people, but my... the organization I work for, I do the best that I can, I am not married to the organization in terms of being central... I am very responsible t my position, but, I would say that, my daughter is the most important thing.. this is how I would say it [25]
		I am just waiting until I have enough money to retire that is the main factor - do I have saved enough money to retire. […] *ARS: Who do you feel committed to?* *P: hard to say ... If it was too stressful a job I would leave, that would*

be one possibility, course you need money to live in this economy you can't go without earning money. Then health insurance, that is a lot. I am committed to having health insurance, that is probably what things boil down to in the past couple of years. […]

ARS: what kind of plans do you have for this time

P: Stay employed and have health insurance, I never had the same job for more than 3.5 years this is the first permanent job that I have. [18]

it is just kind of a ... culture historically. now you could look at your financial position maybe I could retire earlier but then how do you fill your retirement I assume work would be a pretty satisfying component of your satisfaction If I could retire tomorrow, would I ... I don't think so so... at some point you are sloping up and your interest for more other things outside increase and your requirements for income decreases and those converge at some point in that timeframe [20]

Age group: above 50

Grandchildren, Family

but I have hopes and whishes like the grandchildren things and being there you know, I don't know what I would do, if I had the time, I just would love to read more, stay awake, be more laissez faire I want to go Pattee and research every book in there, I would love to do that, you know, just go on a weekend trip be spontaneous, have less structure, I would I could let the structure go [10]

is this something that has ever played into decision, that I only have so many years left no, at least at this point, I can say that I am not afraid to die I am in the process of taking care of my father who is dying of Parkinson he is a shell of his former self I think about quality of life, I rather work and keel over dead than spend that much time in a nursing home [28]

my goals, - my long term goals are to spend more time with my grandchildren and to travel more these are the two key things - depending on health and finances and my finances are pretty good so even if i retire I will still be able to have the finances to travel maybe not as extensive but i would spend more time with my grandchildren, in fact they asked me to move down there and get a job [8].

My main focus is to get my second business well known. We [business partner and wife] have been trying to establish this business for the last ten years. Last year we ramped it up and got venture capital." [9]

grandchild, I am looking forward to that. Well you think, you don't want to be old and have grandchildren but the thing is, I feel ready for it - I feel ready. I am ready to keep going on the next level. there will be new doors opening [...] certain things are not going to be as important anymore some people get to be old and unhappy, because they are not ready for it [6]

Free time, flexibility

maybe just free time, I value that more, 20 years ago I wouldn't mind staying at work till 10 or 11 at night Part if it ... yes I have children ... but on the other hand they are out doing things and I just want to go home and spend time with my husband and do other things, other than work 20 I was still trying to build a career and move up there was a lot of focus there [17]

yeah, well when I go to work I think I have two 12 hours shifts, I think maybe a week ahead, but now I am at the point where I am looking forward to working part time and more control over my schedule depending on whether I stay in the unit or go to a float pool [4]

New frontiers

I love my work, but I also look at retirement as you close one door and you open another and I really look at retirement as this neat new frontier of things that I can do and having more control over my time and what I can do, now I love what I can do but see there is a freedom of retirement, at least i am hoping that [27]

i like my job, I reasonable tolerate it, but I also need to get my kid through college but its not what I dream, I am not dreaming to become the store manager my passion is writing, make the world become a better place [26]

the home care work is physical, this might be the first thing to go if I would have a situation where I am not able to think, then I would have to retire, but that seems a ways off [11]

I am thinking as long as I am healthy, I don't want to do it [retire]. If I had a full time job, that required a lot of concentration and physical energy, I would have the same feeling that my sister has, but I don't feel that way, retirement, I see that at 80 rather than 60 I like what I do and anytime I can stop doing any one of those things and reduce the amount of time that I am working, and decide to sign up for SS. I have worked many years and paid into the system, I was in high school when I started to pay into the system except one year I always paid into the system I have the expectation on my part to be productive.

that is actually the turning point of my career, were I really tried to think - is this what you want to do for the next 15 years as a whole and to a point I think now, when I die, do I want people to think, oh yeah this was the sales guy from XXXX for 20 years or do I want them to think that was the guy who opened his XY company and gave proceeds to the YZ that is the guy who lead a couple of groups I rather be the latter guy the guy that smiled every day some friends of mine are like that they hate their jobs but they are well paid, so they go anyway and they gonna do that for another 20 years their goal is get me to 65 let me retire and I will be fine and sit on a beach, travel and be with my family and friends

ARS: once you retire from XXXX you plan to expand that business

P: Yes, I want to throw myself into every things else that I am interested in

ARS: so you are not counting down the days to retirement, you are counting down the days ...

P:…when I can be my own boss

I have 1000 things to do, maybe start other businesses, expand the ones that I already got but I am not gonna sit in my rocking chair, I am only moving ahead, not thinking about the olden days, but only about the future [19]

yeah, I want to blossom, I am held back, my real job holds me back but I am entrenched into it so far that I cannot quit with three years to go, i have invested too much [19]

the factors that come into the time equation are family, I have grandchildren, now

that I just enjoy ... I have a son that has moved ... relocated from PA to NC when I say time, those are the pieces that make up that component [15].

[15]

it doesn't worry me but it is in the back of my head I mean, there are a lot of place I want to go and a lot of quilts I want to make I have this long list and I am thinking in my lifetime I am not getting all these done [7]

Travel

what were you looking forward to we both like to travel and I still have my own little niches of sport things and we both have place that we want to travel too, while I am still healthy [12]

I would like still be able to enjoy a significant amount of my lifestyle, and travel. I mean, the military ruined me, I like to go places, my wife likes it too. [3].

Other

when I conceptualize it at all I write a will in my head, I picture the people to whom I would be leaving things and the gratitude that they would have: oh he would be very glad to have that he will remember me, we had a lot of fun, stuff like that are you trying to leave something behind sure, memories, I have a number of things that I think will mean something to some other people, and awful lot of people will only have a vague memory of me, but there are people who will remember me fondly [1]

my friends since my parents died, I ... my friends have decreased in number and they have become closer ... friends is what you live for why are they important ... why are they important... you know I love them I ... rather have my best friends health than mine it is almost like a marriage are friends important because they are giving comfort, security, they make me feel good, and when I get older - the older I get, they get less in number but we get tighter and this has changed over time friends from 30 years ago, I don't know anymore [5]

CHAPTER 3:
DEVELOPMENT OF SCALES FOR LTV AND ETV

In this phase of this dissertation I aimed to develop and validate new scales that can measure the concepts introduced in Study 1. Concretely, I developed LTV magnitude/salience scales and ETV magnitude/salience scales. Following recommendations by Hinkin (1998), I have followed a multi-step process that consists of four phases. First, I have generated items using existing theory, expert recommendations, and interviews from Study 1. As the second step (Study 2 of this dissertation), an exploratory factor analysis was used to narrow down the initial item pools and create unidimensional scales. Third, a confirmatory factor analysis (Study 3) was conducted to verify the proposed factor structures. Finally, as step four, construct and criterion related validity of the newly formed scales were evaluated. These steps were performed in Studies 4-7 and are described in the chapters 5-8 of this dissertation..

Item Generation and Pilot Study

As an initial step, the author generated statements that described the conceptual domains outlined in the definitions of LTV and ETV magnitude and salience. Parallel to this procedure, the author analyzed the interview responses in Study 1 concerning behaviors, thoughts, and emotions that were used earlier to create the item definitions and identified those responses that were good conceptual representatives of the constructs. A second graduate student was asked to independently write items that were intended to cover the construct domains. Both item writers then met to discuss and eliminate items that were unsuitable. Spector's (1992) rules and recommendations for item construction were followed. All items were then combined into four initial item pools with 26 items for LTV magnitude, 19 items for LTV salience, 24 items for ETV magnitude, and 26 items for ETV salience. All items are displayed in Table 3.1.

Ten graduate students in psychology were then provided with the construct definitions and were instructed to rate each item concerning its fit with all four constructs. Participants used a 5-point Likert scale with response anchors ranging from 1 (=”very unlikely to represent construct”) to 5 (=“very likely to represent construct”). Based on the results of the qualitative study the following definitions were developed and presented to the participants:

Life Time Vector (LTV):
Definition: an individual’s future that begins now and ends with the end of life.

> **Sub dimension: LTV salience:**
> Definition: The level of awareness that an individual has for his/her LTV or personal future. It describes the salience of the fact that this personal future is finite and that it will come to an end on a certain point. It captures the frequency and intensity with which an individual thinks about LTV.
>
> **Sub dimension: LTV magnitude:**
> Definition: The perceived size of the individual’s LTV. It reflects the individual’s interpretation whether the LTV is long or short, whether it’s ending will happen soon or in the distant future.
>
> Whereas salience describes the intensity of thought about LTV, magnitude describes the perceived length or the brevity of the personal future.

Employment Time Vector (ETV):
Definition: an individual’s future that begins now and ends with the end of **work** life (e.g. retirement)

> **Sub dimension: ETV salience:**
> Definition: The level of awareness that an individual has for his/her ETV or personal future in the workforce. It describes the salience of the fact that the future as an employee is finite and that it will come to an end when this person retires. It captures the frequency and intensity with which and individual thinks about ETV.
>
> **Sub dimension: ETV magnitude:**
> Definition: The perceived or felt size of the individual’s ETV. It reflects the individual’s interpretation whether the ETV is long or short, whether it’s ending will happen soon or in the distant future.
>
> Whereas salience describes the intensity of thought about ETV, magnitude describes the perceived length or the brevity of the personal future.

Table 3.1 displays the average ratings of each item for the four construct definitions. Using these data, all items that were not rated to be good representatives of the intended constructs were eliminated. Items were eliminated if they were rated to be more characteristic of an unintended construct than the intended construct, or if their rating was 3 or higher for an unintended construct (regardless of the loading on the intended item). Items were also eliminated if raters indicated that the item was difficult to understand. If an item was rated to be characteristic of an unintended construct and if it conceptually fit the new construct, the item was added to the corresponding item pool. Following this procedure, 19 items were removed. The removed items are identified in Table 3.1 with an R. Items that were kept despite of their ratings are marked with a K[2]. The remaining items were then included in a questionnaire and administered to participants in the following Study 2.

Study 2: Exploratory Factor Analysis

Recruitment of Participants and Procedure. The survey was disseminated to participants by undergraduate college students. These students were contacted in the beginning of various class sessions and were asked to forward an electronic survey invitation (see Appendix C) to individuals who were older than 30 years and who were working full time. Thus, typical undergraduate college students and retirees were not supposed to be contacted. Students were specifically asked to forward the survey invitation to parents, aunts, and uncles, but also to colleagues, older siblings, friends, or former employers. Interested students then provided their names and email addresses. Within 24 hours a personally addressed email with additional

[2] Some exceptions were made for items that were derived from other scales. The author was interested in comparing these items with the newly created items to assess discriminant validity. Some items that were too similar to other scales were eliminated to minimize conceptual overlap with other scales.

instructions and the email invitation was sent to them. One week before the semester ended, all participants received an additional reminder to disseminate the survey. An estimated total of 1,800 students in 19 classes (finance, theater, chemistry, biology, and psychology) were contacted through this method and 744 students signed up for this task. In addition, 10 graduate students were asked to forward the survey as well.

Potential participants were asked in the survey invitation to click on an electronic link that directed them to the author's project website (www.workandretirement.org) which provided more information about the study, the author, and data confidentiality. On this website participants could then click on a link to the survey, which was hosted by Surveymonkey (www.surveymonkey.com). Participants responded on 7-point Likert-type scales ranging from "strongly disagree" to "strongly agree". Demographic items were administered at the end of the questionnaire. Items were not clustered by intended construct but were presented in a randomized list.

The response rate of this survey could only be approximated as it could not be determined how many potential participants actually received the survey; a flaw that is inherent to this recruitment method. To approximate the response rate of this study, two methods were used. First, students were asked to indicate how many individuals they intended to contact. Six-hundred-sixty-eight students provided this information. On average, these students planned to contact about 2.1 participants, suggesting that about 1560 individuals were contacted. As eventually 521 individuals filled out the questionnaire, the response rate is 34% using the students' intended number of contacts as the denominator. However, this is probably a conservative estimate as it is unlikely that all students who signed up actually forwarded the survey invitation email. Second, each visitor was counted upon visiting the project website. Over the course of the data collection, which started in mid March 2008 and ended in the beginning of

May 2008, 815 individuals visited the website. Using the number of unique visitors as the denominator yields a response rate of 64%.

Participant Demographics

For the analyses in Study 2, 185 cases were randomly selected from the total set of 500 cases which remained after removing retired or part-time working participants. This particular sample size was chosen following recommendations by MacCallum and colleagues (MacCallum, Widaman, Zhang, & Hong, 1999). A preliminary analysis indicated that communalities were around .5. In such cases MacCallum et al. found that sample sizes between 100 and 200 are generally sufficient to produce appropriate factor solutions. The selection of 185 cases was a compromise of reaching the high end of MacCallum's recommendation, while leaving sufficient cases for the more complex Study 3 reported later.

The participants were on average 48.3 years old (SD=8.41). Of the 168 participants who disclosed their sex, 73 were men (44%) and 95 (56%) were women. 159 participants (96%) were Caucasian, two individuals were African-American, one was Asian, three were Hispanic, and one was Native-American. Therefore, there was little racial diversity in this sample. The majority of participants (74%) were living with spouses or partners, 12 percent were divorced, and the remaining 12 percent were either single, widowed, or separated (Table 3.2). About 17 percent of the participants had no children, 14 percent had one, 35 percent had two, and 26 percent had three children (Table 3.3). The average household size was 2.92 (SD=1.31).

The participants were diverse in terms of their occupations. Table 3.4 presents a list of respondents' occupations and areas of employment. The largest occupational categories were education (16%), healthcare (13%), state and federal government (7.2%), computer and information technology (5.4%), and sales (4.2%). Participants were working on the average 43.4

hours per week (SD=9.20) and had an average of 25.4 years of work experience (SD=9.05). Participants varied concerning their education and were on average better educated than the general population. As displayed in Table 3.5, about one third of the sample had a bachelor's degree, one third had less than a bachelor's degree, and about one third had a master's or other advanced degree. As displayed in Table 3.6, participants also came from various socioeconomic backgrounds. Incomes ranged from less than $20,000 per household to over $200,000. Most commonly, households had incomes between $60,000 and $80,000. About half of the participants had more than $100,000 income per household.

Analyses

For each of the four item pools a *separate* exploratory factor analysis was performed, identifying items that did not strongly load on a common factor. These items were then removed from the item pool, leaving behind a homogeneous set of items that constitute an easily interpretable scale (Netemeyer, Bearden, & Sharma, 2003). This was done in lieu of conducting one EFA of all items in question with the expectation to find the anticipated four-factor structure. As the four-factor structure was hypothesized a priori, an exploratory design was inappropriate and a confirmatory factor analysis (see Study 3) was used. Following recommendations by Fabrigar et al. (1999) and Costello and Osborne (2005), a factor analysis with principal axis factoring and oblique rotation (oblimin) was selected. All analyses were performed with the Factor Procedure in SAS 9.1.3.

Results

LTV magnitude. The evaluation of the eigenvalues and scree plot suggested one primary factor accounting for 72.60 percent of the total variance. The eigenvalue of the first factor was 7.16, and the second largest eigenvalue was 1.19. Using the rotated factor pattern, five items were

identified that loaded at least with .40 on the first factor and had no strong loading (>.30) on secondary factors. Table 3.7 shows the complete factor pattern. Items that were retained are in bold print. The retained items are: “It feels to me like the time in which I can be healthy and active is getting shorter” (R), “I feel like old age is approaching more and more quickly” (R), “My life time feels increasingly limited” (R), “Given my age, I believe there is plenty of time left in my life”, and “Given my age, the time that remains in my life seems to be limited” (R). (R = reverse coded item.)

LTV salience. The evaluation of the eigenvalues and scree plot suggested one primary factor accounting for 70.93 percent of the total variance. The eigenvalue of the first factor was 4.20; the second largest eigenvalue was 0.99. Five items with substantial loadings on the first factor (>.50) and small loadings on secondary factors (<.20) were retained (see Table 3.6). The remaining items were: “I often think about to what age I will live”, “I often think about the fact that life is finite”, “I often think about what it will be like to be really old”, “I frequently think about how much time I have remaining in life”, and “The end of my life is not on my mind” (R).

ETV magnitude. Again a one-factor solution appeared most appropriate, as the eigenvalue of the first factor (6.93) accounted for 72.83% of the variance. The next biggest eigenvalue was 1.74. Six items (see Table 3.9) were retained that strongly loaded on the first factor (>.45) and had small loadings on secondary factors (<.20). The remaining items were: “The end of my work life is right around the corner” (R), “Soon it will be time to retire or reduce my work activities” (R), “The end of my work life may be in the not so distant future” (R), “There is not so much time left until I am beginning to retire or reduce my work activity” (R), “Retirement or scaling back is nothing that is going to happen any time soon”, and “When I imagine my future I see the end of my work life coming up” (R).

ETV salience. Eigenvalues and a scree plot again supported a one-factor solution: Factor 1 had an eigenvalue of 7.49, accounting for 68.60 percent of the variance. Secondary factors had eigenvalues of 1.51 and lower. Items were retained if they loaded stronger than .45 on the first factor without loading substantially on secondary factors (<.30) (Table 3.10). The following 5 items were retained: "I think a lot about the time after I retire", "I frequently think about how many more weeks or months I will be going to work", "I often find myself thinking about the end of my employment", "I think very intensively about retirement", and "Concerning my work life I have one foot out the door".

Preliminary Scale Evaluation. The four scales showed high internal consistencies, ranging from .82 (LTV salience) to .83 (LTV magnitude), .86 (ETV salience), and .91 (ETV magnitude). Given the shortness of the scales, these high coefficient alphas further provide evidence for the homogeneity of these scales (Cortina, 1993). As depicted in Table 3.11, the four scales correlated as expected with each other. LTV magnitude correlated negatively with LTV salience (-.60), indicating that individuals with high LTV magnitude contemplate less intensively about their specific LTV. Similarly, ETV magnitude was highly negatively related (-.71) to ETV salience. Correlations across time vector (from LTV to ETV) were smaller, indicating overlap but not redundancy.

Of particular interest was the relation of the newly formed scales with age, tenure and time until retirement (TRR). Age was not significantly related to either LTV scale. The strength of the correlations was -.14 and .07. This may indicate that age is, as proposed, not the driver of LTV magnitude and salience but may be a distinct variable. In contrast, age did correlate with ETV magnitude (-.49) and salience (.35). Again, these correlations indicate that age and ETV overlap but may not be redundant. Tenure did not correlate significantly with LTV scales, but did correlate with ETV magnitude (-.39) and ETV salience (.23). As expected, time until

retirement correlated with LTV magnitude (.21) and salience (-.19), and substantially stronger with ETV magnitude (.58) and ETV salience (-.54).

Study 3: Confirmatory Factor Analysis

Following recommendations by various authors (Hinkin, 1998; Netemeyer et al., 2003; Spector, 1992), a confirmatory factor analysis (CFA) was performed to determine whether LTV magnitude and salience, as well as ETV magnitude and salience, constitute separate factors, or whether they may best be treated as one or two constructs.

Participants and Procedure

For the following analyses, the remaining 315 cases from the data collection described in Study 2 were used. Recruitment methods and the general procedure are described above in Study 2.

Participant Demographics. The participants were on average 48.7 years old (SD=8.36). Of the 294 participants who disclosed their sex, 113 were men (38%) and 182 (62%) were women. The overrepresentation of White Americans in Study 2 was also found in Study 3: 277 (94%) were Caucasian, four were African-American, five individuals were Asian, nine were Hispanic, and one was Native-American. Similarly to the previous sample, the majority of participants (82%) lived with spouses or partners, 9 percent were divorced, and 8 percent were either single, widowed, or separated (See Table 3.12). About 12 percent of the reporting participants had no children, 17 percent had one, 40 percent had two, and 24 percent had three children (see Table 3.13). On average, participants were living in households of 3.13 individuals (SD=1.35).

Education (15%) and healthcare (12%) were the most frequently reported areas of occupation, followed by occupations in the financial field (7%), research and higher education

(6%), state and federal government (6%), manufacturing (6%), and sales (5%) (Table 3.14). Similar to the sample in Study 2, about one third of the participants had a bachelor's degree, one third had less than a bachelor's degree, and about one third had a master's or advanced degree (Table 3.15). As displayed in Table 3.16, the sample consisted of relatively wealthy individuals. Most commonly, households had incomes between $60,000 and $80,000 and similar to the sample in Study 2, about half of the participants had more than $100,000 income per household.

Analysis

A confirmatory factor analysis was performed with the Calis Procedure in SAS 9.1.3. The LINEQS notation was chosen, which is similar to Bentler's (1995) EQS notation. In addition, the scale evaluation performed in Study 2 was repeated in Study 3.

Results

Test of 4-factor structure. It was critical to determine that the four factors are distinct. It was conceivable– especially given the high correlations between magnitude and salience – that the four factors could be collapsed into two or one factors. Therefore, the a priori hypothesized four-factor model was compared to a two-factor model in which both magnitude scales and both salience scales were collapsed, a two-factor model in which the two LTV and ETV scales were each collapsed, and a one-factor model in which all scales loaded on the same factor. As displayed in Table 3.17, the a-priori four-factor model provided the best fit of the data with Chi - Square = 294.31 (df = 183), NNFI=.95, CFI=.95, IFI=.95, and RMSEA = .05. Reducing the factor structure to two and one factor did not improve the fit of the model and increased significantly the Chi-Square statistics.

Scale evaluation. Scale internal consistencies were similar to the previous analysis. LTV magnitude displayed an alpha of .81, and LTV salience an alpha of .79. Alpha for ETV

magnitude was .89 and for ETV salience .86. Similar to the preceding analysis, correlations between the new scales and the competing constructs were at an expected level and direction (Table 3.18). LTV magnitude correlated negatively (-.60) with LTV salience. ETV magnitude correlated negatively (-.69) with ETV salience. Age was significantly correlated to all four constructs, but the correlation coefficients did not reach levels that would suggest redundancy. Tenure was significantly related to LTV magnitude but not significantly related to LTV salience. The strongest relation of tenure was with ETV magnitude (-.47). Time remaining until retirement (TRR) was in this sample not substantially related to LTV variable with coefficients reaching -.14 (magnitude) and .10 (salience). It was not significantly related to ETV variables.

Discussion Study 2 & 3

Study 2 and 3 provided a variety of encouraging preliminary results. First, using exploratory and confirmatory factor analyses, four sets of items were identified that demonstrated in two separate analyses good reliability. In addition to this empirical homogeneity, a review of these four scales further indicated that the items conceptually reflected the four constructs in question. The exploratory factor analysis with an oblique rotation was also a conservative test of a one-factor structure as "competing" factors were allowed to rotate freely. The test of a four-factor structure using a confirmatory factor analysis indicated that the four scales should not be collapsed into a simpler factor structure (e.g., a two or one-factor structure), providing initial evidence for construct validity of these concepts.

Finally, the correlation pattern of the four new scales provided some insights concerning their position in a nomological net. For both data sets, the relation of age with LTV and ETV scales was not strong enough to suggest that these concepts are redundant. In other words, LTV and ETV are not proxies of age. Similarly, the relation of tenure with LTV and ETV scales was

fairly small (<.40), suggesting that the four constructs do not simply overlap with this retrospective measure. Finally, the estimated time remaining until retirement (TRR) was also not related to LTV and ETV to a degree that would suggest that these concepts are interchangeable. ETV magnitude was correlated with .58 (Study 2) and .52 (Study 3) with TRR. Although this coefficient correctly reflects the inherent relatedness of these two variables, the strength of this relation is not strong enough to suggest that both measures are reflecting the same constructs. Age, tenure, and TRR are likely to have low levels of measurement error, as they are objectively measurable variables and easily retrieved from memory. Therefore, it is unlikely that the low correlations with LTV and ETV are entirely due to poor measurement. Finally, the relations among the new proposed constructs are in the anticipated direction, further providing evidence for construct validity. LTV and ETV magnitude are negatively related to their salience counterparts, indicating that individuals with shorter time vectors think more intensively about the remaining time.

In sum, Studies 2 and 3 have produced four consistent and distinct scales. The outcomes of these studies allow proceeding to the last steps of a scale development suggested by Hinkin (1998), in which the construct validity and criterion validity of the newly formed constructs are evaluated.

Limitation

The almost complete lack of non White-American participants clearly poses questions whether this factor structure is equally applicable to other subgroups. The absence of minorities was likely driven by the low base-rate of minorities of the disseminators of the study. Therefore, in future studies, efforts should be made to increase the diversity of participants to assess whether the proposed constructs have meaning and predictive value for these populations.

Tables Chapter 3

Table 3.1: *Initial item pools for LTV magnitude, salience, and ETV magnitude, salience*

Item number	Removal status	Item text	Average Rating			
			LTV magnitude	**LTV** salience	**ETV** magnitude	**ETV** salience
		Items for LTV magnitude				
lmag1	1	The end of my life seems far away for me.	4.4	2.3	1.6	1.1
lmag2	2	It feels like my life is never going to end	4.5	2.6	1.1	1.1
lmag3	3	I have the feeling that my life is going to go on forever	4.8	3.0	1.1	1.1
lmag4	4	The end of my days is around the corner	4.9	2.5	1.1	1.1
lmag5	5	I feel like I will never be old	3.9	2.8	1.2	1.2
lmag6	6	It feels like the end of my life may be in the not so distant future	4.4	2.2	1.6	1.3
lmag7	7	It feels like I have many more healthy years left in my life	4.7	2.3	1.1	1.1
lmag8	8	It feels to me like the time in which I can be healthy and active is getting shorter	4.8	2.6	1.3	1.3
lmag9	R	My health could fail at any moment	4.1	3.7	1.1	1.1
lmag10	9	I feel like old age is approaching more and more quickly	4.5	2.8	1.3	1.3
lmag11	R	I consider myself old	3.2	3.6	1.1	1.1
lmag12	R	I assume I will be active and healthy until I die	3.0	3.3	1.3	1.3
lmag13	10	My life time feels increasingly limited	4.8	2.8	1.2	1.2
lmag14	11	Given my age, I believe there is plenty of time left in my life	4.9	2.3	1.3	1.1
lmag15	12	Given my age, the time that remains in my life seems to be limited	4.6	2.5	1.4	1.4
lmag16	R	Given my age, the time that remains in my life feels like it is not enough	4.8	2.8	1.1	1.1
lmag17	13	There is not much time left until my age will begin to limit my activities	4.6	2.7	1.6	1.2
lmag18	R	It seems like time is passing faster and faster the older I get	4.6	3.0	1.0	1.0
lmag19	14	Old age is nothing that is going to happen any time soon	4.4	2.7	1.1	1.1
lmag20	R	It seems to me that the end of life is in the offing	5.0	2.6	1.1	1.1
lmag21	15	When I imagine my future I see the end of life coming up	4.6	3.1	1.2	1.1
Imag22	R	When I imagine my future I see my health and abilities decline very soon	4.0	3.1	1.3	1.1

Item number	Removal status	Item text	Average Rating			
			LTV magnitude	**LTV** salience	**ETV** magnitude	**ETV** salience
lmag22	16	I feel like old age is far away for me	4.6	2.7	1.3	1.1
lmag23	17	I am at a point in life where I have to pick and choose my commitments because I don't have time for everything	4.1	2.6	1.8	1.4
lmag24	18	I see myself to be living for a long time	4.9	2.3	1.1	1.1
lmag25	19	The end of my life is on the horizon	4.9	2.6	1.1	1.1
lmag26	20	Issues like the end of life and my own mortality are on my radar	2.7	4.9	1.1	1.0
		Items for LTV salience				
lsal1	1	I am sometimes the oldest in a group	2.6	3.6	1.1	1.2
lsal2	2	My body reminds me that I am getting older	3.0	3.9	1.1	1.1
lsal3	3	I have seen family members or friends die	1.9	3.6	1.0	1.0
lsal4	4	Recently it seems that people my age are getting sick or die	2.4	4.0	1.2	1.2
lsal5	5	I often think about to what age I will live	2.9	4.8	1.1	1.2
lsal6	6	I think about what I will leave behind after I die	1.9	4.2	1.1	1.2
lsal7	7	I often think about the fact that life is finite	2.7	4.6	1.1	1.1
lsal8	8	I often think about what it will be like to be really old	1.8	4.8	1.2	1.2
lsal9	9	I think often about whether my health will fade in my old age	2.3	4.8	1.1	1.1
lsal10	10	I don’t think about my health much	1.9	4.3	1.0	1.0
lsal11	11	I am concerned that my health will not hold up when I get older	2.4	4.3	1.0	1.1
lsal12	R	I think a lot about the time after I retire	1.5	2.2	2.8	4.2
lsal13	12	I frequently think about how much time I have remaining in life	2.7	4.9	1.1	1.1
lsal14	R	I have calculated how many more years I am likely to live	4.2	3.9	1.2	1.1
lsal15	R	When I celebrate my birthday I am aware that I have one year less left in life	4.0	4.2	1.1	1.1
lsal16	13	I assume that I will get a severe illness when I get older	2.3	3.3	1.0	1.0
lsal17	14	I have suffered from a life threatening disease	2.2	3.9	1.1	1.1
lsal18	15	I have family and friends who have experienced a life threatening disease	2.3	3.2	1.0	1.0
lsal19	16	The end of my life is not on my mind	2.7	4.7	1.2	1.2

Item number	Removal status	Item text	Average Rating: LTV magnitude	LTV salience	ETV magnitude	ETV salience
		Items for ETV magnitude				
emag1	1	The end of my work life is not yet in sight	1.3	1.1	4.4	2.8
emag2	2	I have the feeling that my work life will never end	1.1	1.1	4.8	2.7
emag3	3	The end of my work life is not yet foreseeable	1.2	1.0	4.2	3.1
emag4	4	I have the feeling that time in my work life is running out	1.3	1.1	4.6	2.9
emag5	5	The end of my work life is right around the corner	1.6	1.6	4.8	2.7
emag6	6	Soon it will be time to retire or reduce my work activities	1.2	1.1	4.8	2.8
emag7	7	I am not sure how much longer I will have to go to work	1.2	1.2	4.3	2.8
emag8	8	Retirement seems a long way down the road	1.2	1.2	4.7	2.6
emag9	R	I have career goals that I want to accomplish before my work life ends	1.3	1.6	3.0	3.1
emag10	K	In my remaining work life I will not set new goals for myself	1.1	1.1	3.4	3.3
emag11	R	In terms of my career I am exactly where I want to be	1.1	1.1	2.8	3.3
emag12	R	Thinking about retirement is not an issue for me yet	1.3	1.2	2.8	4.5
emag13	9	The end of my work life seems very far away for me.	1.4	1.1	5.0	2.4
emag14	10	It feels like my work life is never going to end	1.1	1.1	4.7	2.6
emag15	11	I have the feeling that my work life is going to go on forever	1.6	1.4	4.3	2.1
emag16	12	The end of my work life is right around the corner	1.2	1.2	5.0	2.8
emag17	13	The end of my work life may be in the not so distant future	1.1	1.1	4.9	2.8
emag18	14	Given my age, I believe there is a lot of time left in my work life	1.3	1.3	4.8	2.2
emag19	15	Given my age, the time that remains in my work life seems to be limited	1.3	1.3	4.6	3.1
emag20	16	There is not so much time left until I am beginning to retire or reduce my work activity	1.2	1.2	4.7	2.6
emag21	17	Retirement or scaling back is nothing that is going to happen any time soon	1.2	1.1	4.7	2.7
emag22	R	It seems to me that retirement is in the offing	1.1	1.1	4.8	2.9
emag23	18	When I imagine my future I see the end of my work life coming up	1.2	1.2	4.6	3.7

Item number	Removal status	Item text	Average Rating: **LTV** magnitude	**LTV** salience	**ETV** magnitude	**ETV** salience
		Items for ETV salience				
esal1	1	I think about how many more years I have to go to work	1.2	1.2	3.4	4.2
esal2	2	I often imagine what it would be like not having to go to work	1.3	1.3	2.3	4.0
esal3	R	I am counting down the weeks, months, and years that I still have to go to work	1.1	1.1	3.9	3.9
esal4	R	When I get up in the morning I wish I could do whatever I want instead of going to work	1.1	1.4	1.9	2.9
esal5	K	I know the date of my retirement	1.2	1.2	3.7	4.2
esal6	R	I know how many more weeks, months, or years I have to go to work	1.2	1.2	4.6	4.0
esal7	4	I have calculated how much money I will have in my retirement	1.1	1.2	2.8	3.8
esal8	R	I am aware that I am soon to become a retiree	1.5	1.5	4.3	3.3
esal9	5	I have figured out at what age I will retire or scale down my work efforts.	1.1	1.2	2.8	4.0
esal10	6	I can easily imagine what my life will be like when I stop working	1.3	1.4	2.1	3.7
esal11	7	I have talked with family or friends about retirement plans	1.6	1.9	2.1	3.3
esal12	8	I have looked at my finances to figure out when I can retire	1.2	1.2	2.7	4.1
esal13	9	I have looked into my company's policies about retirement benefits	1.2	1.1	2.9	4.1
esal14	10	I inquired at what age I can receive Social Security Benefits	2.1	2.0	1.9	2.6
esal15	R	Concerning my career, I have the impression that I am on my way out of here	1.1	1.1	4.7	2.8
esal17	R	I am preparing for retiring or scaling back my work efforts	1.2	1.2	4.1	3.9
esal18	11	Retirement is not on my mind	1.1	1.4	2.8	4.7
esal19	12	I think a lot about the time after I retire	1.0	1.0	1.3	4.7
esal20	13	Thinking about retirement is not an issue for me yet	1.2	1.1	2.7	4.7
esal21	14	I frequently think about what it would be like to be a retiree	1.0	1.0	1.3	3.7
esal22	15	I frequently think about how many more weeks or months I will be going to work	1.0	1.0	1.7	5.0

Item number	Removal status	Item text	Average Rating: **LTV** magnitude	**LTV** salience	**ETV** magnitude	**ETV** salience
esal23	16	I often find myself thinking about the end of my employment	1.0	1.0	1.7	5.0
esal24	17	I think very intensively about retirement	1.0	1.0	1.7	5.0
esal25	18	I am aware that my work life will end at some point	1.0	1.0	2.0	5.0
esal26	19	I never think about the time that I will be in the workforce	1.0	1.0	1.7	5.0
esal27	20	Concerning my work life I have one foot out the door	1.0	1.0	5.0	3.7

Note. Average rating describes 10 graduate students rating of individual items on a scale from 1 (=not characteristic of construct definition at all) to 5 (=very characteristic of construct definition). Items with a number in the column removal status were used in the following analyses. Items with an R were eliminated; items with a K were kept for theoretical reason.

Table 3.2
Marital status of participants in Study 2

Marital Status	Freq.	Percentage
Married/Partnership	125	74.4
Divorced	20	11.9
Single	16	9.5
Widowed	3	1.8
Separated	4	2.4

Table 3.3
Number of Children in household (Study 2)

Number of Children	Freq.	Percentage	Accumulated Percentage
0	28	17.4	17.4
1	22	13.7	31.1
2	57	35.4	66.5
3	42	26.1	92.5
4	9	5.6	98.1
5	2	1.2	99.4
6	1	0.6	100.0

Table 3.4
List of self-reported occupations of 167 participants (Study 2)

Occupation / Industry	Frequency	Occupation / Industry	Frequency
Education	26	Wholesale Distribution	3
Healthcare	21	Logistic	3
Government (State & Federal)	12	Accounting	2
Computer / IT	9	Electricity	2
Sales	7	Fashion / Beauty	2
Administrative Assistance	6	Non-Profit	2
Consulting	6	Technology	2
Financial Sector	6	Transportation	2
Research / University Education	6	Customer Service	1
Construction	5	Farming / Agriculture	1
Military / Defense	5	Fitness	1
Pharmacy / Pharmacology	4	Food & Restaurants	1
Social Services	4	Furniture	1
Automotive	3	Housing	1
Hospitality	3	Law enforcement	1
Human Resources	3	Legal	1
Industrial Retail / Sales	3	Market Research	1
Insurance	3	Physician	1
Real Estate	3	Publishing	1
Telecommunication	3		

Table 3.5
Educational levels of Study 2 participants

Education	Frequency	Percentage
Some High School	1	0.6
High School Diploma	28	16.8
Associate Degree	20	12.0
Vocational School	3	1.8
Bachelor's Degree	57	34.1
Master's Degree	47	28.1
Advanced Degree	11	6.6

Table 3.6
Income levels of Study 2 participants

Household Income	Freq.	Percentage	Accumulated Percentage
Less than $20,000	0	0.0	0.0
$20,001-$40,000	7	4.4	4.4
$40,001-$60,000	20	12.7	17.1
$60,001-$80,000	25	15.8	32.9
$80,001-$100,000	20	12.7	45.6
$100,001-$120,000	17	10.8	56.3
$120,001-$140,000	14	8.9	65.2
$140,001-$160,000	21	13.3	78.5
$160,001-$180,000	10	6.3	84.8
$180,001-$200,000	4	2.5	87.3
more than $200,000	20	12.7	100.0

Table 3.7
Factor Pattern for LTV magnitude

Item ID	Item	Factor1	Factor2	Factor3	Factor4	Factor5
lmag1	The end of my life seems far away for me.	0.061	-0.042	0.321	0.561	0.174
lmag2	It feels like my life is never going to end	-0.056	0.035	0.580	0.117	0.201
lmag3	I have the feeling that my life is going to go on forever	0.126	-0.020	0.681	0.069	0.059
lmag4r	The end of my days is around the corner	0.231	0.227	-0.216	0.180	0.154
lmag5	I feel like I will never be old	0.172	0.207	0.519	-0.100	-0.242
lmag6r	It feels like the end of my life may be in the not so distant future	0.230	0.523	-0.160	0.120	-0.018
lmag7	It feels like I have many more healthy years left in my life	0.478	0.142	0.168	0.334	-0.245
lmag8r	**It feels to me like the time in which I can be healthy and active is getting shorter**	**0.716**	**0.066**	**0.050**	**-0.019**	**0.156**
lmag10r	**I feel like old age is approaching more and more quickly**	**0.616**	**0.203**	**0.129**	**-0.096**	**-0.086**
lmag13r	**My life time feels increasingly limited**	**0.620**	**0.016**	**-0.001**	**-0.103**	**0.095**
lmag14	**Given my age, I believe there is plenty of time left in my life**	**0.610**	**-0.083**	**0.197**	**0.241**	**0.020**
lmag15r	**Given my age, the time that remains in my life seems to be limited**	**0.506**	**0.119**	**-0.114**	**0.340**	**-0.110**
lmag17r	There is not much time left until my age will begin to limit my activities	0.333	0.324	0.125	0.019	0.020
lmag19	Old age is nothing that is going to happen any time soon	-0.042	0.558	0.177	0.094	0.294
lmag21r	When I imagine my future I see the end of life coming up	0.457	0.108	0.003	0.332	0.190
lmag22	I feel like old age is far away for me	0.032	0.624	0.157	-0.027	0.049
lmag23r	I am at a point in life where I have to pick and choose my commitments because I don't have time for everything	0.103	0.100	0.051	-0.060	0.435
lmag24	I see myself to be living for a long time	-0.049	0.192	-0.005	0.480	-0.097
lmag25r	The end of my life is on the horizon	0.144	0.461	-0.115	0.289	-0.103
lmag26r	Issues like the end of life and my own mortality are on my radar	0.230	0.010	0.097	0.369	0.346

Note: Items with ID that end with an "r" are reverse coded. Bold items were retained and are part of the final scales.

Table 3.8
Factor Pattern for LTV salience

Item ID	Item	Factor1	Factor2	Factor3	Factor4
lsal1	I am sometimes the oldest in a group	0.191	-0.064	0.518	0.050
lsal2	My body reminds me that I am getting older	0.133	0.326	0.300	0.203
lsal3	I have seen family members or friends die	-0.007	-0.073	0.272	0.282
lsal4	Recently it seems that people my age are getting sick or die	0.010	0.224	0.383	0.272
lsal5	**I often think about to what age I will live**	**0.832**	**0.032**	**0.111**	**-0.182**
lsal6	I think about what I will leave behind after I die	0.277	0.246	0.283	-0.102
lsal7	**I often think about the fact that life is finite**	**0.527**	**0.129**	**-0.063**	**-0.147**
lsal8	**I often think about what it will be like to be really old**	**0.662**	**0.076**	**0.025**	**-0.080**
lsal9	I think often about whether my health will fade in my old age	0.274	0.552	0.257	-0.043
lsal10r	I don't think about my health much	0.280	0.048	-0.424	0.176
lsal11	I am concerned that my health will not hold up when I get older	0.061	0.622	-0.016	-0.097
lsal13	**I frequently think about how much time I have remaining in life**	**0.716**	**0.174**	**0.022**	**0.080**
lsal16	I assume that I will get a severe illness when I get older	0.062	0.564	-0.105	0.045
lsal17	I have suffered from a life threatening disease	-0.030	0.316	-0.130	0.367
lsal18	I have family and friends who have experienced a life threatening disease	-0.011	-0.028	0.022	0.539
lsal19r	**The end of my life is not on my mind**	**0.543**	**-0.068**	**-0.029**	**0.201**

Note: Items with ID that end with an "r" are reverse coded. Bold items were retained and are part of the final scales.

Table 3.9
Factor Pattern for ETV magnitude

Item ID	Item	Factor1	Factor2	Factor3	Factor4
emag1	The end of my work life is not yet in sight	0.206	0.092	0.440	0.441
emag2	I have the feeling that my work life will never end	0.120	0.735	-0.004	-0.162
emag3	The end of my work life is not yet foreseeable	0.240	0.382	0.383	0.202
emag4r	I have the feeling that time in my work life is running out	0.496	-0.022	0.402	-0.285
emag5r	**The end of my work life is right around the corner**	**0.774**	**-0.021**	**0.118**	**0.016**
emag6r	**Soon it will be time to retire or reduce my work activities**	**0.957**	**-0.037**	**-0.093**	**-0.003**
emag7	I am not sure how much longer I will have to go to work	0.018	-0.030	-0.066	0.480
emag8	Retirement seems a long way down the road	0.282	0.336	0.281	0.174
emag10r	In my remaining work life I will not set new goals for myself	-0.039	-0.070	0.415	-0.023
emag14	It feels like my work life is never going to end	-0.005	0.793	-0.198	-0.064
emag15	I have the feeling that my work life is going to go on forever	-0.120	0.839	0.067	0.156
emag17r	**The end of my work life may be in the not so distant future**	**0.817**	**0.072**	**-0.052**	**-0.072**
emag18	Given my age, I believe there is a lot of time left in my work life	0.100	0.027	0.598	-0.031
emag19r	Given my age, the time that remains in my work life seems to be limited	0.315	0.063	0.446	-0.097
emag20r	**There is not so much time left until I am beginning to retire or reduce my work activity**	**0.786**	**-0.109**	**0.026**	**0.070**
emag21	**Retirement or scaling back is nothing that is going to happen any time soon**	**0.587**	**0.186**	**0.174**	**0.054**
emag23r	**When I imagine my future I see the end of my work life coming up**	**0.641**	**0.122**	**0.007**	**0.137**

Note: Items with ID that end with an "r" are reverse coded. Bold items were retained and are part of the final scales.

Table 3.10
Factor Pattern for ETV salience

Item ID	Item	Factor1	Factor2	Factor3	Factor4	Factor5
esal1	I think about how many more years I have to go to work	0.447	-0.114	0.066	0.466	0.087
esal2	I often imagine what it would be like not having to go to work	0.385	-0.156	0.414	0.294	0.080
esal7	I have calculated how much money I will have in my retirement	-0.004	0.778	0.079	-0.130	0.043
esal9	I have figured out at what age I will retire or scale down my work efforts.	0.228	0.620	0.025	0.033	0.012
esal10	I can easily imagine what my life will be like when I stop working	0.004	0.156	0.624	0.110	-0.074
esal11	I have talked with family or friends about retirement plans	-0.039	0.549	-0.084	0.397	0.163
esal12	I have looked at my finances to figure out when I can retire	0.064	0.753	-0.173	0.132	0.084
esal13	I have looked into my company's policies about retirement benefits	-0.013	0.537	0.256	-0.086	0.194
esal14	I inquired at what age I can receive Social Security Benefits	0.236	0.453	0.194	0.086	-0.174
esal18r	Retirement is not on my mind	0.121	0.095	-0.085	0.056	0.620
esal19	**I think a lot about the time after I retire**	**0.549**	**0.054**	**0.273**	**-0.100**	**0.124**
esal20r	Thinking about retirement is not an issue for me yet	0.037	0.130	0.084	0.179	0.646
esal21	I frequently think about what it would be like to be a retiree	0.451	0.022	0.507	0.236	-0.041
esal22	**I frequently think about how many more weeks or months I will be going to work**	**0.748**	**0.085**	**-0.002**	**0.028**	**-0.004**
esal23	**I often find myself thinking about the end of my employment**	**0.499**	**-0.022**	**0.107**	**0.292**	**0.275**
esal24	**I think very intensively about retirement**	**0.578**	**0.174**	**-0.048**	**0.102**	**0.195**
esal25	I am aware that my work life will end at some point	-0.022	-0.012	0.433	-0.086	0.329
esal26r	I never think about the time that I will be in the workforce	-0.073	0.058	0.055	0.683	0.077
esal27	**Concerning my work life I have one foot out the door**	**0.726**	**0.081**	**-0.073**	**-0.089**	**-0.008**

Note: Items with ID that end with an "r" are reverse coded. Bold items were retained and are part of the final scales.

Table 3.11
Means and Correlations of Study 2

	Mean	Std Dev	TRR	Tenure	Age	LTVM	LTVS	ETVM
TRR	15.205	9.634						
Tenure	25.449	9.063	-0.521					
Age	48.188	8.461	-0.723	0.746				
LTVM	4.485	1.233	0.212	-0.035	-0.148			
LTVS	3.701	1.268	-0.189	0.007	0.065	-0.606		
ETVM	4.961	1.421	0.581	-0.384	-0.490	0.334	-0.221	
ETVS	3.113	1.349	-0.542	0.230	0.350	-0.425	0.422	-0.711

Note: TRR is time remaining until retirement. TRR, Tenure, and Age are measure in years. (LTVM = LTV magnitude, LTV + LTV salience. ETVM = ETV magnitude, ETVS = ETV salience)

Table 3.12
Marital status of participants in Study 3

Marital Status	Freq.	Percentage
Married/Partnership	240	82.5
Divorced	25	8.6
Single	20	6.9
Widowed	4	1.4
Separated	2	0.7

Table 3.13
Number of Children in household (Study 3)

Number of Children	Freq.	Percentage	Accumulated Percentage
0	35	12.3	12.3
1	47	16.5	28.8
2	113	39.6	68.4
3	68	23.9	92.3
4	19	6.7	98.9
5	2	0.7	99.7
6	1	0.4	100.0

Table 3.14
List of self-reported occupations of 260 participants (Study 3)

Occupation / Industry	Frequency	Occupation / Industry	Frequency
Education	38	Market Research	3
Healthcare	32	Steel & Mining	3
Financial	17	Farming / Agriculture	2
Research & Higher Education	16	Fashion / Beauty	2
Government (State & Federal)	15	Human Resources	2
Manufacturing	15	Insurance	2
Sales	12	Military	2
Pharmacology / Pharmacy	11	Physician	2
Computer / IT	8	Publishing	2
Consulting	8	Technology	2
Administrative Assistance	6	Transportation	2
Non-Profit	6	Automotive	1
Social Services	6	Corporate management	1
Accounting	5	Dentistry	1
Construction	5	Food	1
Packaging	5	Furniture	1
Customer Service	4	Hospitality	1
Public Sector	4	Law enforcement	1
Real Estate	4	Photography	1
Architect / Design	3	Religious	1
Electrical / Utilities	3	Waste Management	1
Legal	3		

Table 3.15
Educational levels of Study 3 participants

Education	Frequency	Percentage
Some High School	0	0
High School Diploma	53	18.2
Associate Degree	37	12.7
Vocational School	10	3.4
Bachelor's Degree	97	33.2
Master's Degree	63	21.6
Advanced Degree	32	11.0

Table 3.16
Income levels of Study 3 participants

Household Income	Freq.	Percentage	Accumulated Percentage
Less than $20,000	1	0.0	0.0
$20,001-$40,000	11	3.8	3.8
$40,001-$60,000	36	12.5	16.3
$60,001-$80,000	43	14.9	31.3
$80,001-$100,000	40	13.9	45.1
$100,001-$120,000	39	13.5	58.7
$120,001-$140,000	14	4.9	63.5
$140,001-$160,000	27	9.4	72.9
$160,001-$180,000	12	4.2	77.1
$180,001-$200,000	16	5.6	82.6
more than $200,000	49	17.0	99.7

Table 3.17
Fit of one, two, and four factor models

Model	Description	CFI	NNFI	IFI	RMSEA	χ^2	*df*	$\Delta\chi^2$	Δdf
A priori four factor	(LTV magnitude) + (LTV salience) + (ETV magnitude) + (ETV salience)	.95	.95	.95	.05	294.31	183		
Two Factor A	(LTV magnitude, LTV salience) + (ETV magnitude, ETV salience)	.87	.85	.86	.08	497.80	188	203.49**	5
Two Factor B	(LTV magnitude, ETV magnitude) + (LTV salience, ETV salience)	.70	.66	.71	.12	882.80	188	588.49**	5
One Factor	(LTV magnitude, LTV salience, ETV magnitude, ETV salience)	.65	.55	.66	.13	998.52	189	704.21**	6

Table 3.18
Means and Correlations of Study 3

	Mean	Std Dev	TRR	Tenure	Age	LTVM	LTVS	ETVM
TRR	15.615	10.903						
Tenure	26.213	9.831	-0.510					
Age	48.727	8.374	-0.677	0.785				
LTVM	4.481	1.312	0.187	-0.249	-0.274			
LTVS	3.449	1.259	-0.087	0.088	0.081	-0.600		
ETVM	5.035	1.401	0.512	-0.386	-0.475	0.386	-0.277	
ETVS	3.030	1.393	-0.376	0.292	0.287	-0.361	0.449	-0.691

Note: TRR is time remaining until retirement. TRR, Tenure, and Age are measure in years. (LTVM = LTV magnitude, LTV + LTV salience. ETVM = ETV magnitude, ETVS = ETV salience)

CHAPTER 4: RECRUITMENT METHODS FOR STUDIES 4 - 7

The same data collection procedure was utilized for Studies 4-7, as described below. As a result, the data collection procedure is described here for all four studies. Participants were invited via an email that was sent out by the Alumni Association of The Pennsylvania State University. For each study about 9950 emails were distributed. The complete email invitation is displayed in Appendix D. Recipients were randomly chosen from the overall email distribution list of the Alumni Association. Individuals younger than 30 years (estimated by their graduation date) were excluded from the email list, but no other limitations were made. With the exception of the survey disseminators, the procedure was identical to Studies 2 and 3. The individual response rates per survey were:

Study	**Invitations**	**Response rate**
Study 4	9946	4.5%
Study 5	9925	6.4%
Study 6	9937	6.1%
Study 7	9949	6.4 %

As it was impossible for the Alumni Association to know whether recipients were still actively working, the list of recipients included an unknown number of retirees. Therefore, the response rates displayed above is a very conservative estimate as many individuals may have correctly declined to participate due to their age or work status. In addition, email and phone conversations with concerned participants revealed that some individuals assumed that this survey was part of a scam and decided not to participate. Further, given that the Alumni Association sends out a number of emails per week, it is likely that many survey invitations were ignored since they were assumed to be advertisements. Taken together, these factors suggest that much of the non-participation is due to factors that are not related to the variables in the study,

creating effectively a missing completely at random pattern of missing data (Rogelberg et al., 2003).

In addition, similar to Studies 2 and 3, participants were counted upon visiting the project website on which they were forwarded to the actual survey website. Due to technical reasons it is not possible to differentiate visitors by survey, so the following response rates were calculated across Studies 4, 5, 6, and 7. Of the 39767 recipients, 2322 responded, yielding an overall response rate of 5.8 percent. However, the ratio of survey takers compared to project website visitors may a more adequate reflection of the response rate. This response rate was 66 percent (2322 participants / 3495 website visitors). Invitation recipients who did not visit the project page only had incomplete information about the goals and the nature of the study. Therefore, it is likely that these individuals declined because of non-survey related reasons, such as a lack of time, suspicion, or general disinterest in surveys. Given that little was known about the nature of the survey, it is unlike that survey specific factors lead to the non-response of these individuals.

In contrast, of the website visitors (who had a better understanding of the nature of the survey) only 34 percent declined to take the survey. This number likely includes many individuals who declined because of survey related issues (e.g. anxiety about retirement); however, the proportion of non-responders was comparably low and is probably non-critical in terms of representativeness (Rogelberg et al., 2003; Rogelberg, Luong, Sederburg, & Cristol, 2000).

CHAPTER 5:
EVALUATION OF CONSTRUCT VALIDITY OF LTV AND ETV SCALES (STUDY 4)

At this point of this study it was important to establish construct validity of the newly formed constructs and to evaluate the psychometric properties of related scales. For this purpose, three types of analyses were performed. First, the confirmatory factor analyses from Study 3 were repeated to assess whether the factor structure found previously could be replicated. Second, the newly formed measures were correlated with a set of competing measures to evaluate their convergent and discriminant validity and to begin positioning the new measures in a nomological network. Third, an initial attempt was made to assess the predictive validity of the LTV scales. Additional predictive validity studies were performed in Studies 5, 6, and 7.

Replication of factors structures

As a preliminary analysis, it was hypothesized that the one-factor solutions (per construct) and the four-factor solution (per four constructs) would fit adequately for this new dataset. For this purpose the same covariance structures from Study 3 were imposed on the new dataset.

Convergent Validity

It was predicted that the newly formed scales and measures of age, tenure, TRL, and TRR would be correlated. Some covariation was anticipated as all constructs are driven by the same process, the aging of the individual. However, as salience and magnitude of LTV and ETV are the individual's interpretations of the actual anticipated time windows (TRL and TRR), it was proposed that the conceptual overlap is only partial. In principle, the older a person the *smaller*

should be a person's LTV and ETV magnitude[3]. Conversely, the older a person the *higher* should be this person's LTV and ETV salience. However, a central tenet of this study is that magnitude and salience are primarily individual differences in how individuals deal with the slowly shrinking LTV. LTVM and LTVS should be influenced but not solely determined by age.

Hypothesis 5.1a: LTVM and ETVM are negatively related to age and tenure, and positively related to TRL and TRR.

Hypothesis 5.1b: LTVS and ETVS are positively related to age and tenure, and negatively related to TRL and TRR.

A negative relation between *health status* and LTVS and ETVS was predicted. Declining health has been identified as one of the "reminders" (Karp, 1986, 1988) that draws the individual's attention to his or her mortality. Similarly, a decrease of health should be associated with higher ETVS as the end of employment may constitute a relief from the burdens of work or a limitation of the enjoyment of work life. Therefore, a negative relation between health and LTVS and ETVS is hypothesized. LTVM and ETVM should be positively related to health status as good health may lead to the belief that life and work life will not be restricted through health concerns in the near future.

Hypothesis 5.2a: LTVM and ETVM are positively related to health.

Hypothesis5.2b: LTVS and ETVS are negatively related to health.

Stress at work was anticipated to be negatively related to ETVM and positively related to ETVS. Stressed employees may intend to retire earlier to evade the negative feelings associated with stress experienced at work. Therefore, for those individuals ETV magnitude would be curtailed by earlier retirement. Similarly, stressed employees may imagine or visualize retirement

[3] Note that LTVM and ETVM are coded so that high scores indicate a high magnitude, and low scores indicate a low magnitude.

more frequently as it may offer an opportunity to evade stressors. No relation was predicted for the LTV scales.

Hypothesis 5.3a: Stress is negatively related to ETVM and positively related to ETVS.

Hypothesis 5.3b: Stress is unrelated to LTVM and LTVS.

Further, LTVM was anticipated to converge with *Future Time Perspective* (FTP; Carstensen & Frederickson, 1998; Carstensen et al., 1999). However, as discussed in the introduction of this dissertation, the FTP scale has been found not to be unidimensional but to contain at least two factors (Cate & John, 2007). Given that there was likely to be more than one factor involved, it was investigated whether LTVM overlaps with the FTP scale as a whole, or only with parts of the FTP scale. Specifically, the last three items of the FTP scale were likely candidates for overlap as they have similar content to the LTVM items. It was therefore anticipated that the overlap of the LTVM scale was strongest with a subscale consisting of FTP items 8, 9, and 10.

Hypothesis 5.4a: LTVM is positively related to FTP.

Hypothesis 5.4b: LTVM is most strongly related to a FTP subscale consisting of items 8, 9, and 10.

Hypothesis 5.4c: Relations of FTP with LTVS, ETVM, and ETVS scales are weak and lower in magnitude than relations of FTP with LTVM.

It was also necessary to assess the level of overlap of ETVM and ETVS with *job attitudes*. The decision to retire is to a certain degree under the control of the individual. Most employees can extend employment to a certain degree as mandatory retirement is rare, or they can retire earlier if their financial resources allow it. The decision to retire may be driven by certain push factors (Beehr, 1986; Shultz, Morton, & Weckerle, 1998), such as low job satisfaction and low affective organizational commitment (Dendinger et al., 2005). Retirement,

however, is also the end of the ETV, which implies that retirement constitutes an "upper ceiling" for ETVM and likely leads to a heightened level of ETVS. Therefore, work attitudes, ETVM, and ETVS may all be assessing the same underlying factor, the desire to retire. Given this, job attitudes that are considered retirement push factors were included in the questionnaire and correlated with both ETV scales. Measured attitudes were affective and continuance organizational commitment (Meyer & Allen, 1991), job satisfaction (e.g. (Judge, Thoresen, Bono, & Patton, 2001), and turnover intentions (Vandenberg & Nelson, 1999).

Hypothesis 5.5a: ETVM is positively related to job satisfaction and affective organizational commitment, and negatively related to turnover intention.

Hypothesis 5.5b: ETVS is negatively related to job satisfaction and affective organizational commitment, and positively related to turnover intention.

Hypothesis 5.5c: Continuance organizational commitment was predicted to be unrelated to ETVM and ETVS.

Discriminant Validity

In terms of *discriminant* validity, it was predicted that LTV and ETV scales are not related to various conceptualizations of time perspective. As outlined above, LTVM and ETVM reflect the depth of the temporal space that seems available to the individual, whereas other time perspective measures assess how far an individual looks into the future. Three modern time perspective scales (described in detail in the measures section below) were administered together with the LTV and ETV scales.

Hypothesis 5.6: LTVM, ETVM, LTVS, and ETVS are not related to conceptualizations of time perspective.

In addition, this study was aimed at demonstrating that the newly formed constructs are unrelated to personality traits.

Hypothesis 5.7: Personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) are unrelated to LTVM, ETVM, LTVS and ETVS.

Predictive Validity

Finally, analyses were conducted to obtain initial evidence regarding whether the newly formed scales have predictive power. As noted by Brown, Trevino, and Harrison (2005), it is necessary to go beyond construct validity considerations and establish the utility of a construct. Following central tenets of Carstensen et al.'s (1999) socioemotional selectivity theory, individuals with small LTVM and high LTVS should reevaluate their goals and gravitate towards emotionally relevant and meaningful events. At the same time, knowledge related goals (e.g., getting ahead in an organization) should lose their value. This shift in goals should impact an individual's motivation.

Barrick and colleagues (Barrick, Stewart, & Piotrowski, 2002) proposed that motivation can be distinguished into three major categories which capture most goals that a person may have: accomplishment, status, and communion striving. Accomplishment striving reflects an individual's motivation to complete tasks and accomplish his/her goals. It represents an individual's inherent need for competence. Status striving reflects motivation towards obtaining power and dominance within a status hierarchy. Communion striving represents actions suitable to increase social acceptance in relationships and getting along with other individuals. Given that emotionally relevant goals often involve social interactions with others (Carstensen & Frederickson, 1998; Karp, 1988), communion striving should decrease with increases in LTVM and increase with increases in LTVS. In contrast, accomplishment striving, which may be instrumental to getting ahead in an organization, will be positively related with LTVM and negatively related with LTVS. Finally, status may be a source of meaningfulness to most

individuals, implying that small LTVM should be associated with high levels of status striving. Similarly, high levels of LTVS should be associated with high levels of status striving.

Hypothesis 5.8a: LTVM is negatively related to communion striving.

Hypothesis 5.8b: LTVS is positively related to communion striving.

Hypothesis 5.9a: LTVM is positively related to accomplishment striving.

Hypothesis 5.9b: LTVS is negatively related to accomplishment striving.

Hypothesis 5.10a: LTVM is negatively related to status striving.

Hypothesis 5.10b: LTVS is positively related to status striving.

Methods

Participants

Participants were mostly Caucasian (98.5%), on average 47.0 years old (SD=10.6) and expecting to live 37.3 more years. About 54 percent were male. The majority were college educated with 38 percent having obtained at least a bachelor's degree, 40 percent having obtained a master's degree, and 18 percent having obtained another advanced degree. Participants had on average 24 years of work experience (SD=10.6).

Participants were working in various industries which are presented in Table 5.1. The most frequent occupations were education (20%), business and financial operations (13%), management (12%), architecture and engineering (8%), and legal occupations (5%). Almost 12% of the respondents were self-employed. On average, participants were working 46 hours per week (SD=9.7).

Participants were mostly married or living in partnerships (78%), and were living in households with on average 2.8 members (SD=1.3). Thirty-one percent of all participants had no

children, 16 percent had one, and 52 percent had at least two children. Although the median annual household income was around $120,000, participants ranged from $20,000 to over $200,000. Table 5.2 displays the complete distribution.

The circumstances of the participants that would allow or prohibit retirement were diverse. In the demographics section they were asked to select from four short vignettes the best description of their current retirement situation. About 50 percent of the participants agreed that they are too young to consider retirement, 22 percent agreed that they would like to retire but are still waiting to complete retirement preparation. Sixteen percent agreed that they could retire any time but that they are continuing to work, and 12 percent agreed that they must retire although they would prefer to continue working. Further, participants reported that their preferred TRR is on average 12 years (SD=9.6) and that their anticipated TRR is on average 16 years (SD=10.3). The highest percentage of participants (24%) planned to stop working altogether when they retire, 16 percent had no current plans, and 15 percent planned to start working for themselves. The detailed distribution is displayed in Table 5.3.

Measures

LTV and ETV magnitude and salience scales were administered together with two additional items per scale. These additional items were the next best fitting items in the previous EFA. These additional items were not further taken into consideration in the remainder of the analysis. All scales again displayed good levels of internal consistency. Coefficient alphas were: .88 (LTVM), .88 (LTVS), .92 (ETVM), and .89 (ETVS).

Demographics. Demographic items assessing such factors as age, gender, marital status, and race were simple one item questions (e.g. “Are you male or female”) with corresponding answer options. The variable TRL was also assessed in the demographics section and was created

by subtracting chronological age from the anticipated life expectancy. The demographic section was presented at the end of the questionnaire.

Health. Health was measured using two items taken from Cleveland and Shore (1992): "I believe my overall level of health will allow me to continue working as long as I want" [7-point response scale, ranging from strongly disagree (=1) to strongly agree (=7)] and "What is your overall level of health?" [5-point response scale ranging from "very poor" to "excellent" (=5)]. With the exception of the latter item, all scales used 7-point Likert response anchors ranging from strongly disagree (=1) to strong agree (=7).

Big-5 Personality. Personality was conceptualized as the five factor model (McCrae & Costa, 2003) and was assessed using the "Mini-IPIP scales" (Donnellan, Oswald, Baird, & Lucas, 2006). This short form of the original 50-item International Personality Item Pool measure (Goldberg et al., 2006) has only four items per construct but has demonstrated acceptable internal consistency and acceptable construct validity (Donnellan et al., 2006). In this study, internal consistencies for the four scales were: .80 for extraversion, .77 for agreeableness, .70 for conscientiousness, .75 for neuroticism, and .68 for openness (labeled imagination in the IPIP).

Temporal Perspective. Time orientation and temporal perspective were assessed through three separate scales. First, Shipp's (Shipp, in press) Temporal Focus Scales (TFS) were used. The TFS was developed as a shorter, alternative measure to Zimbardo and Boyd's (1999) Zimbardo Time Perspective Inventory (ZTPI) and Holman and Silver's (1998) Temporal Orientation Scale. The TFS assesses, with three subscales, how strongly an individual focuses on the past, the present, or the future. Sample items are "I replay memories of the past in my mind" (Past Focus; alpha= .88), "I live my life in the present" (Present Focus; alpha= .77), and "I think about what my future has in store" (Future Focus; alpha= .84).

In addition, the consideration of future consequences scale (Strathman et al., 1994) was included. This scale assesses the degree to which individuals' behavior is determined by its long term consequences. A sample item is "I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes." The internal consistency of this scale was .82. Finally, Carstensen et al.'s (Carstensen et al., 1999) Future Time Perspective scale was included as the major competing scale of the newly formed scales. The internal consistency was .90[4]. For the predictive validity study only the first seven items of the scale were included to minimize overlap with the LTVM scale. The rationale for shortening the FTP scale is discussed below.

Job satisfaction. Global job satisfaction was measured using the Overall Job Satisfaction scale by Brayfield and Rothe (1951). Despite its age it is still deemed an adequate measure of job satisfaction and is still used (Judge, Bono, Erez, & Locke, 2005). A sample item is "Most days I am enthusiastic about my work". The internal consistency was .90.

Organizational commitment. Two facets of organizational commitment (Meyer & Allen, 1991; Meyer, Allen, & Smith, 1993) were measured, affective and continuance. Affective organizational commitment results from the employee's experiences at work and describes the identification with and the emotional attachment to the organization (Allen & Meyer, 1996). A sample item is "This organization has a great deal of personal meaning for me"; the scale's internal consistency was .89. Continuance organizational commitment evolves out of the employees recognition of the cost that may result from leaving the organization (Allen & Meyer,

[4] Although a coefficient alpha of .90 suggests high homogeneity, Cortina (1993) showed that even short scales can contain more than one factor despite high correlations alphas. High correlation alphas are not sufficient to establish unidimensionality of a measure.

1996). A sample item is: “If I had not already put so much of myself into this organization, I might consider working elsewhere”; the internal consistency was .77.

Job Stress. Stress was measured using items developed by Motowidlo, Packard, and Manning (1986) which measure subjective stress or the intensity of stress a person experiences, rather than the frequency with which stressors occur. A sample item is “I feel a great deal of stress because of my job”; the internal consistency was .89.

Turnover Intention. Turnover intention reflects the individual’s plan to quit the organization in the near future (Vandenberg & Nelson, 1999). The scale used in this study (Crossley, Bennett, Jex, & Burnfield, 2007) was developed with the intention to minimize overlap with job attitudes. This non-overlap was desirable in this context because job attitudes were already represented by other scales, and because LTV and ETV scales were supposed to be related to the pure intention to quit, but not the attitudes that are driving this intention. The turnover intention scale had an alpha of .91.

Motivation. Motivation was measured using the Motivational Orientation Inventory (Barrick et al., 2002). The three subscales had alphas of .87 (accomplishment), .92 (status), and .84 (communion).

Results

Replication of factor structures

The test of the 4-factor structure performed in Study 3 was repeated. Similar to the previous analysis, there was good support for the proposed four factor structure: Chi-Square = 457.25 (df = 183), NNFI = .95, CFI = .95, IFI = .95, and RMSEA = .06 (90% confidence interval between .05 and .06).

Nomological Validity

Age related measures. All bivariate correlations as well as variable means and standard deviations can be found in Table 5.4. As expected, *chronological age* was negatively correlated with LTVM ($r = -.34$, $p < .01$) and negatively related to ETVM ($r = -.62$, $p < .01$). For LTVM this relation was substantial but did not suggest that LTVM is a proxy for age. Rather, the relation correctly reflected that older individuals had an objectively shorter life time ahead of them, but did not suggest that age is the sole determinant of how this time vector is evaluated. The relation of age with ETVM was larger than expected (-.62, $p < .01$): retirement is a more immediate event than the end of life and the time until retirement may pose a restriction on employment time long before death poses an end to life time. LTVS was not related to age ($r = .08$, $p > .10$). This indicates that the intensity with which individuals think about LTV is not stronger or weaker for older individuals. The relation of age with ETVS was substantial and positive ($r = .34$, $p < .01$), suggesting that older participants thought about their ETV more intensively than younger participants.

As expected, *tenure* was related negatively to LTVM ($r = -.34$, $p < .01$) and ETVM ($r = -.58$, $p < .01$). It seems plausible that tenure is a proxy variable for age. Therefore, the relations between both magnitude scales and age are also reflected in the relations between LTVM, ETVM, and tenure. Tenure was unrelated to LTVS, and, as expected, was positively related to ETVS ($r = .28$, $p < .01$). LTVM was, as expected, positively related to *time remaining until retirement* (TRR; $r = .31$, $p < .01$). However, TRR was strongly related to age ($r = .81$, $p < .01$), suggesting that the relation between LTVM and TRR reflects the underlying relationship of LTVM with age. A very strong relationship was found for ETVM and TRR ($r = .71$, $p < 001$), suggesting substantial overlap between these variables. TRR was unrelated to LTVS, again

paralleling the relation with of LTVS with age. ETVS was, as expected, negatively correlated to TRR ($r = -.48$, $p < .01$) underlining the overlap of the ETV scales with TRR.

The relations of *time remaining in life* (TRL) with LTVM and ETVM were in the expected direction (LTVM: $r = .42$, $p < .01$; ETVM: $r = .49$; $p < .01$) but did not indicate redundancy with these measures. The relations of TRL with LTVS and ETVS were, as expected, negative (LTVS: $r = -.20$, $p < .01$; ETVS: $r = -.30$, $p < .01$). This result provides evidence for the construct validity of this measure. Specifically, LTVM and TRL are related, but TRL reflects the anticipated time window that individuals believe they have, while LTVM reflects the personal evaluation whether this amount of time is a lot or a little. TRL is the object of the evaluation, whereas LTVM is the result of this evaluation.

In total, although some expected relationships were not significant, no relations were in unexpected directions. The overall pattern of correlations provides partial support for Hypotheses 5.1a and 5.1b.

Health. Both health items were positively related to LTVM ($r = .23/.29$, $p < .01$) but unrelated to ETVM. Similarly, health was related to LTVS ($r = -.18$, $p < .01$; $r = -.11$, $p < .05$) but not related to ETVS, providing partial support for Hypotheses 5.2a and 5.2b.

Stress. Stress was found to be unrelated to ETVM, but minimally related to ETVS ($r = .09$, $p < .05$). Although this relation is small, it is in the expected direction and provides partial support for Hypothesis 5.3a. Stress was unrelated to LTVM and only weakly related to LTVS, supporting Hypothesis 5.3b.

Future time perspective. The relationship with FTP and LTVM was, as expected, substantial and positive, ($r = .66$, $p < .01$). The magnitude of this relationship suggests that both measures substantially overlap. To determine whether both scales are collinear and whether LTVM should be retained as a separate scale, a confirmatory factor analysis was performed in

which both scales were forced on one factor. This solution was compared with a two factor solution, in which LTVM and FTP were permitted to load on two factors. The results indicate that the one-factor solution fits the data considerably worse than the two-factor solution: One-factor: Chi-Square = 1465 (df = 90), NNFI = .60, CFI = .66, IFI = .66, and RMSEA = .20. Two-factor: Chi-Square = 1047 (df = 92), NNFI = .73, CFI= .76, IFI = .76, and RMSEA = .16 (90% confidence interval between .08 and .16). The improvement of fit indices indicated that the two factor solution fit the data substantially better than the one factor solution.

However, given that the FTP scale was known to be multidimensional (Cate & John, 2007), an exploratory factor analysis was performed which indicated that the ten items clearly loaded onto three factors. The items belonging together were averaged and correlated with LTVM. One set of items (labeled *FTPsub3* in Table 5.4) correlated particularly high with LTVM ($r = .70$, $p < .01$). These three items were "I have the sense that time is running out", "There are only limited possibilities in my future", and "As I get older, I begin to experience time as limited". In addition to the empirical overlap, items in subset FTPsub3 were conceptually similar to LTVM, focusing on the length of the time that is left in life. The other two subsets (labeled FTPsub1 and FTPsub2) correlated at much weaker levels with LTVM.

Similar to the procedure above, it was again tested whether this short 3-item subscale loads on a different factor than the LTVM scale or whether a one-factor solution with all 8 items loading on the same factor would be more appropriate. Again, the comparison of both CFAs indicated that the one-factor solution fit the data considerably worse than the two-factor solutions. The one factor solution showed rather poor fit: Chi-Square = 197.02 (df=20), NNFI= .64, CFI= .90, IFI= .90, and RMSEA = .15. The two-factor solution showed acceptable fit: Chi-Square = 84.90 (df=19), NNFI= .95, CFI= .96, IFI= .97, and RMSEA = .09. In sum, FTP and LTVM scales are clearly overlapping. However, the FTP scale does not seem to be homogeneous and only a

subset of the items correlated at a critical level with FTP. Therefore, the FTP scale as a whole is probably measuring something different than the LTVM scale. Further, even the three-item subscale did not fit well onto the same factor as the LTVM scales. This preliminary evidence suggests that both scales tap an only partially overlapping construct domain. However, despite the support for a two factor solution, for the following assessments of criterion validity (using regression models) the three overlapping items of the FTP scale (FTPsub3) were removed from the FTP scale to avoid the inclusion of collinear predictors. Therefore, the modified FTP scale will be labeled FTP*mod* in the remainder of this dissertation. This modified scale showed relations of smaller magnitude to other variables. For examples, FTPmod correlated with r = .54 with LTVM and r = -.31 with LTVS.

In conclusion, some support for Hypotheses 5.4a and 5.4b was found. The correlations of FTP with the remaining new scales, LTVS, ETVM, and ETVS, also indicated substantial overlap but were smaller than for LTVM, supporting Hypothesis 5.4c.

Job attitudes. Job satisfaction was uncorrelated with ETVM, but negatively correlated with ETVS ($r = -.21$, $p < .01$), suggesting that dissatisfied employees think, as hypothesized, more strongly about the ETV. Since the magnitude of the relation was small, job dissatisfaction is unlikely to be tantamount to ETVS.

The relationships of ETVM ($r = -.32$, $p < .01$) and ETVS ($r = .39$, $p < .01$) with *turnover intention* were much stronger and in the expected negative direction. Specifically, the smaller a person's ETVM, the higher was the turnover intention. These relations were stronger than the relations among turnover intention, age, and TRR. The magnitude of the ETV may therefore be a better predictor of the desire to leave the organization than TRR. Similarly, ETVS may be a stronger predictor of turnover intentions than TRR. Affective organizational commitment was unrelated to ETVM and weakly related to ETVS ($r = -.13$, $p < .05$); the latter relation was in the

expected direction. Therefore, for ETVM there was only weak support for Hypothesis 5.4a and 5.4b; however, for ETVS these hypotheses were supported.

Discriminant Validity

Consideration of future consequences. The CFC measure (Strathman et al., 1994) was significantly related to ETVM, although with a small magnitude ($r = -.11$, $p < .05$), supporting the Hypothesis 6 prediction that the newly developed scales are distinct from temporal orientation scales.

Temporal Focus. All three TF subscales showed some significant relations with the newly formed scales. The overall pattern does not indicate that Temporal Focus is strongly overlapping with LTV and ETV. TPpast was correlated with LTVS ($r = .33$, $p < .01$), indicating that those individuals who think more about the past also think more intensively about their future. However, TPfuture was much more weakly related to LTVS ($r = .12$, $p < .05$). This indicates that individuals who look into the past also think more about their LTV. Whereas the underlying reasons are unclear, none of the correlations indicate that TPS are redundant with LTV and ETV scales. Therefore, Hypothesis 5.6 received further, partial support.

Big-5 Personality. As predicted, there were few relations among personality factors and the newly formed scales. Specifically, with the exception of neuroticism, no personality scales were substantially related to the newly formed scales. Neuroticism was related to LTVM and LTVS, which indicates that less emotionally stable individuals think more about their LTV and also perceive their LTV to be shorter. Although not originally predicted, this finding makes theoretical sense. Given the comparably low magnitude of the relations, Hypothesis 5.7 received partial support.

Predictive Validity.

A series of hierarchical regression analyses were used to test of the impact of the newly formed variables on various dependent variables. In the first step, competing or traditional predictors of the respective outcome were included, as well as some demographic variables and the contrasts. In steps 2-5, the new measures were entered in separate steps. For all analyses residuals were checked for heteroscedasticity and higher order trends. All regression results are presented in Table 5.5

For *status striving,* this study provided support for Hypotheses 5.9a. LTVM was negatively related to status striving ($b = -0.21$, $p < .01$), which significantly increased the fit of the model. As predicted, individuals with low LTVM were more status motivated than individuals with high LTVM. In contrast, LTVS was not significantly related to status striving, failing to provide support for Hypothesis 5.9b. Notably, age was also negatively related to status striving ($b = -.18$, $p < .01$). Given the negative correlation with LTVM, it was anticipated that age would relate with an opposite sign to status striving. The fact that age was negatively related to status striving underlines that LTVM may overlap with age, but they function differently in the prediction of status striving. This finding implies that status striving is lower for individuals with high LTVM, but is higher for individuals with low LTVM.

For *accomplishment striving,* the LTVM scale was significantly related to the outcome. However, the direction of the relationship was contrary to Hypothesis 5.9a. As a follow-up, the quadratic term of LTVM was included in the model and was highly significant. For the purpose of interpretation, the quadratic relation was plotted (Cohen, Cohen, West, & Aiken, 2003). Figure 5.1 displays predicted outcomes of the LTVM score ranging from 1-7. The shape of the curve implies that individuals with moderate scores have the lowest accomplishment striving scores, whereas individuals with high scores and low scores have higher accomplishment striving scores.

Contrary to all expectation, individuals with low LTVM may have the desire to accomplish more than individuals with higher LTVM scores. Although no support for hypotheses 5.10a and 5.10b was found, these findings do support the assumption that the newly developed constructs have differential predictive ability than extant constructs. Similar to status striving, FTP was significantly related to accomplishment striving, but had the opposite sign than LTVM. This implies that despite their substantial overlap, both scales function differently and are therefore to be treated as separate constructs.

For *communion striving*, Hypothesis 5.8b was supported: the higher an individual's LTVS, the more interested this person was in developing social contacts within the organization. In contrast, communion striving was not significantly related to LTVM, failing to provide support for Hypothesis 5.8a.

Discussion: Study 4

The first goal of Study 4 was to verify the 4-factor structure. This was successfully done, as the 4-factor structure again fit the data adequately. Concerning convergent validity, overall study results were favorable. Although support was not found for all hypotheses, there were no relations that were contrary to the hypothesized direction. The four newly formed constructs fit in the predicted nomological net developed in this study as there are no relations that are irreconcilable with the definitions of the new constructs. A potential problem may be some high correlations between constructs, as they suggest that some new constructs may be sufficiently covered by existing measures. Concretely, TRR and ETVM were strongly correlated ($r = .70$). Future analyses will have to show whether ETVM has incremental utility over TRR. TRR is easily assessed using one item and may be preferable over ETVM if ETVM does not provide incremental utility.

FTP and LTVM were also very highly correlated (r = .66). However, a CFA indicated that a one factor solution was inadequate. In addition, once the FTP scale was decomposed into smaller sub-factors, it became clear that only parts of the FTP scale are strongly overlapping with LTVM. Carstensen and her colleagues have not published the paper in which the FTP scale was initially introduced. Therefore, it is unclear whether what factor structure was initially intended and how the items were generated. The finding in this sample of a three factor structure resonates with previous findings by Cate and John (2007) that showed that cross-sectionally and longitudinally the sub-factors functioned very differently. Studies 5, 6, and 7 of this dissertation will provide more clarity on whether LTVM and FTP are interchangeable constructs. Study 4, however, provides some evidence that in two cases FTP functioned very differently from LTVM. When LTVM and FTP were both regressed on accomplishment striving, their beta-weights had opposite signs. Even if the correlation between both constructs is high, they should be treated as distinct if they function differently in the prediction of third variables. However, regardless of some empirical evidence that the FTP scale and the LTVM scale may measure different constructs, the three most overlapping items of the FTP scale were removed from the scale in subsequent analyses.

The third purpose of Study 4 was to determine the predictive power of LTVM and LTVS. For all three outcomes, either LTVM or LTVS was incrementally predictive. As all competing scales were already entered in the regression models, the incremental variance explained is unique to LTVM and LTVS. As hypothesized, LTVS predicted communion striving and LTVM was a significant predictor of status striving.

For accomplishment striving LTVM was also significantly related. However, the relationship was opposite to the prediction. In addition, the quadratic term of LTVM was significant, indicating a non-linear relationship of LTVM with accomplishment striving (see

Figure 5.1). Contrary to the hypothesis, accomplishment striving is higher for individuals with small LTVM and very high LTVM, whereas it is relatively low for individuals with medium levels of LTVM. This U-shaped relationship could be explained as follows: individuals at the beginning of their career want to create high levels of competence in order to get ahead in their organization. Towards the career end, individuals may increase accomplishment striving in order to reach certain life goals or to experience meaning from high levels of competence. If this is true, the previously developed theoretical model must be thoroughly revised. Up to this point the underlying assumption was that individuals gravitate towards emotionally relevant goals and that these goals are primarily achieved through meaningful experiences social contacts, such as family and friends, and not at work. Possibly individuals do increasingly desire meaningful events, but the source of these events can very well be found in the mastery of their job. This view point would be reconcilable with self-determination theory (Deci & Ryan, 1987) and job characteristics theory (e.g., Hackman & Oldham, 1976). A central tenet of both theories is that mastery of a task and autonomy in the execution of this task are related to motivation. Therefore, a more adequate conceptualization of human reactions to decreases of the LTV is that some individuals will invest *more* effort in their work as they anticipate deriving psychological meaningfulness from this course of action.

Critical for the following analyses may be to clearly differentiate between individuals who are in job situations that are suitable to supply them with meaningfulness and individuals who cannot derive meaning from their current job situation. The potential of the work situation to provide emotionally meaningful events may be a central moderator of the impact of LTVM and LTVS. In following studies job characteristics such as task identity, task variety, and autonomy (Morgeson & Humphrey, 2006) are included and will be tested as moderators of the next proposed relationships.

Tables Chapter 5

Table 5.1
Distributions of occupations

Industry	Frequency	Percent
Management Occupations	49	12.41
Business and Financial Operations Occupations	50	12.66
Computer and Mathematical Occupations	21	5.32
Architecture and Engineering Occupations	32	8.1
Life, Physical, and Social Science Occupations	10	2.53
Community and Social Services Occupations	7	1.77
Legal Occupations	21	5.32
Education, Training, and Library Occupations	78	19.75
Arts, Design, Entertainment, Sports, and Media Occupations	15	3.8
Healthcare Practitioners and Technical Occupations	32	8.1
Healthcare Support Occupations	13	3.29
Protective Service Occupations	1	0.25
Food Preparation and Serving Related Occupations	2	0.51
Building and Grounds Cleaning and Maintenance Occupations	1	0.25
Personal Care and Service Occupations	18	4.56
Sales and Related Occupations	9	2.28
Office and Administrative Support Occupations	2	0.51
Farming, Fishing, and Forestry Occupations	6	1.52
Construction and Extraction Occupations	1	0.25
Installation, Maintenance, and Repair Occupations	8	2.03
Production Occupations	2	0.51
Transportation and Material Moving Occupations	2	0.51
Military Specific Occupations	15	3.8

Table 5.2
Income distribution

Income	Frequency	Percent	Cumulative Percent
Less than $20,000	3	0.79	0.79
$20,001-$40,000	8	2.12	2.91
$40,001-$60,000	28	7.41	10.32
$60,001-$80,000	30	7.94	18.25
$80,001-$100,000	61	16.14	34.39
$100,001-$120,000	47	12.43	46.83
$120,001-$140,000	32	8.47	55.29
$140,001-$160,000	37	9.79	65.08
$160,001-$180,000	20	5.29	70.37
$180,001-$200,000	22	5.82	76.19
more than $200,000	90	23.81	100

Table 5.3
Distribution of retirement plans

Retirement Plan	**Frequency**	**Percent**
stop working altogether	90	23.5
never stop working	20	5.2
not given much thought	30	7.8
no current plan	60	15.7
reduce work hours (but keep this job)	50	13.1
change work	54	14.1
work for myself	59	15.4
work until my health fails	20	5.2

Table 5.4: *Means, Standard Deviations and Bivariate Correlations Study 4 (continued on next page)*

	Mean	SD	LTVM	LTVS	ETVM	ETVS	Age	TRR	TRL	Tenure	Health1	Health2	Extra	Agree	Consc.	Neuro	Open	Fut. Event
LTVM	4.43	1.38	--															
LTVS	3.81	1.39	-.54	--														
ETVM	5.06	1.53	.42	-.29	--													
ETVS	2.74	1.36	-.38	.38	-.69	--												
Age	47.02	10.58	-.34	.08	-.62	.31	--											
TRR	16.23	10.34	.31	-.08	.71	-.48	-.81	--										
TRL	37.34	13.59	.42	-.20	.49	-.30	-.76	.66	--									
Tenure	24.14	10.55	-.34	.08	-.58	.28	.91	-.75	-.69	--								
Health1	5.67	1.20	.30	-.18	.06	-.06	-.08	.04	.25	-.08	--							
Health2	4.15	0.79	.23	-.11	.07	-.08	-.06	.02	.25	-.08	.53	--						
Extraversion	4.25	1.26	.15	-.08	.00	-.03	.04	-.06	.06	.06	.09	.10	--					
Agreeableness	5.40	0.94	.14	-.05	.08	-.11	.00	-.04	.17	.01	.04	.10	.26	--				
Conscient.	5.37	1.03	.17	-.15	-.06	-.03	.04	-.16	.00	.03	.10	.21	.03	.15	--			
Neuroticism	3.38	1.21	-.20	.30	.12	.07	-.17	.14	.03	-.14	-.18	-.21	-.21	-.13	-.19	--		
Openness	5.29	1.02	-.03	.08	-.07	-.01	.10	-.02	.00	.09	.01	-.04	.20	.23	-.02	-.16	--	
Fut. Events	5.07	0.72	-.03	.00	-.12	.09	.06	-.17	.05	.04	.10	.19	.04	.25	.25	-.15	.17	--
TPpast	5.09	1.01	-.13	.33	.04	.10	-.17	.08	.05	-.14	-.03	.01	.09	.10	-.02	.23	.18	.06
TPpresent	5.22	0.78	.20	-.10	.21	-.14	-.15	.13	.16	-.15	.19	.15	.02	.13	.08	-.13	.09	-.03
TPfuture	5.33	0.77	.06	.12	.02	.14	-.18	.08	.23	-.16	.13	.14	.17	.23	.09	-.03	.26	.33
FTP	4.70	1.09	.66	-.43	.32	-.27	-.37	.26	.46	-.34	.31	.21	.20	.21	.13	-.25	.05	.06
FTPmod	4.75	1.13	.54	-.31	.27	-.21	-.38	.26	.46	-.35	.32	.20	.20	.21	.10	-.22	.09	.07
FTPsub1	5.32	1.19	.40	-.23	.18	-.16	-.29	.15	.38	-.24	.33	.20	.14	.21	.14	-.23	.16	.19
FTPsub2	4.34	1.29	.56	-.32	.30	-.21	-.38	.29	.45	-.37	.26	.18	.20	.19	.07	-.18	.03	-.03
FTPsub3	4.58	1.35	.72	-.56	.32	-.32	-.26	.20	.35	-.24	.25	.16	.15	.16	.16	-.24	-.05	.04
Jobsat	5.47	1.16	.12	-.14	-.04	-.21	.17	-.12	-.11	.14	.15	.13	.12	.14	.18	-.28	.06	.13
Aff. Org. Com.	4.83	1.41	.04	-.01	-.02	-.13	.12	-.07	-.06	.08	.16	.12	.04	.14	.13	-.14	.03	.01
Cont. Org. Com.	4.01	1.27	-.19	.20	.08	.01	-.11	.13	.04	-.12	-.06	-.06	-.05	-.02	-.11	.28	-.02	-.08
Turnover Intent.	2.69	1.46	-.17	.15	-.32	.39	.10	-.20	-.12	.11	-.15	-.17	.02	.03	-.11	.07	.10	.04
Stress	4.71	1.47	-.06	.13	.01	.10	-.08	.05	.02	-.09	-.02	-.07	-.05	.08	-.07	.26	.03	.10
Accomp Str.	5.52	0.76	-.04	.08	.07	-.05	-.05	-.03	.01	-.08	.04	.13	-.02	.17	.24	.14	-.03	.24
Status Str.	4.02	1.25	-.05	.13	.12	-.06	-.23	.22	.12	-.20	.02	.05	.07	-.05	-.01	.17	-.08	.02
Community Str.	4.07	0.93	-.07	.18	.03	-.01	-.06	.04	.04	-.10	-.04	.03	.07	.19	-.06	.17	.00	.04

	TPpast	TPpres.	TPfut.	FTP	FTPmod	FTPsub1	FTPsub2	FTPsub3	Job Sat.	Aff. Org. Com.	Cont. Org Com.	Turno. Intent.	Stress	Accomp. Striving`	Status Striving
TPpresent	.16	--													
TPfuture	.32	.27	--												
FTP	-.05	.27	.31	--											
FTPmod	.01	.28	.36	.95	--										
FTPsub1	.01	.29	.39	.82	.87	--									
FTPsub2	.01	.24	.29	.91	.94	.66	--								
FTPsub3	-.17	.18	.14	.82	.62	.50	.62	--							
Job Sat.	-.01	.16	.05	.20	.18	.26	.10	.19	--						
Aff. Org Com.	-.02	.14	.06	.10	.09	.12	.06	.10	.65	--					
Cont. Org. Com.	.13	.01	.00	-.25	-.21	-.26	-.15	-.25	-.11	.13	--				
Turnover Intention	-.05	-.13	.04	-.14	-.09	-.09	-.09	-.20	-.51	-.53	-.14	--			
Stress	.04	.01	-.01	-.08	-.06	-.06	-.05	-.10	-.26	-.06	.21	.15	--		
Accomplishment Striving	.17	.15	.23	.10	.12	.18	.07	.05	.25	.20	.11	-.15	.31	--	
Status Striving	.08	.02	.20	.11	.15	.10	.15	.02	.00	.05	.14	-.06	.10	.37	--
Communion Striving	.22	.01	.16	.00	.04	.04	.05	-.08	.08	.07	.18	-.06	.07	.22	.34

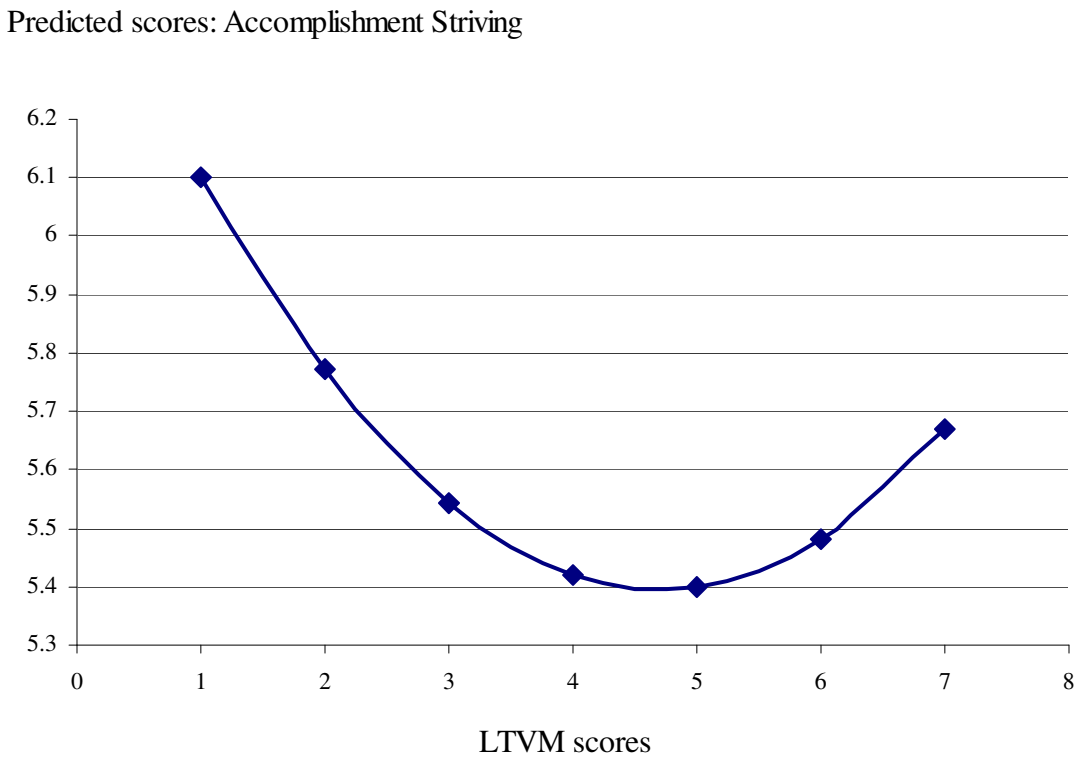
Note. All correlation above .13 in magnitude are significant at p<.01; all correlations above .11 are significant at p<.05. FTPsub1, FTPsub2, FTPsub3, and FTPmod are subscales of the FTP scale, see the text for more details.

Table 5.5 *Multiple Regression Results*

	Status Striving			Accomplishment Striving			Communion Striving		
Variable entered	**b**	**R-squared**	**ΔR-squared**	**b**	**R-squared**	**ΔR-squared**	**b**	**R-squared**	**ΔR-squared**
Age	-0.177			-0.002			-0.013		
Gender	-0.073			0.011			0.055		
Neuroticism	0.178			0.169			0.186		
FTP	0.216			0.109			0.063		
Aff. Org. Com.	0.056			-0.025			0.001		
Job Satisfaction	0.054			0.388			0.149		
Stress	0.068			0.376			0.079		
Health	-0.023	.101	.101	-0.015	.245	.245	-0.059	.061	.061
		Step 2			Step2			Step 2	
ETVM	-0.065	.104	.003	.045	.246	.001	-0.25	.061	.000
		Step 3			Step 3			Step 3	
ETVS	-0.037	.104	.000	.049	.247	.001	0.028	.062	.001
		Step 4			Step 4			Step 4	
LTVM	-0.211**	.130**	.025	-.137**	.258	.011	-0.105	.068	.006
		Step 5			Step 5			Step 5	
LTVS	0.095	.135	.006	.043	.259	.001	0.175**	.087	.019
					Step 6				
LTVM*LTVM				.675**	.272	.013			

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Figure 5.1
Quadratic Relationship between LTVM and Accomplishment Striving



CHAPTER 6: STUDY 5- PREDICTIVE VALIDITY OF LTV SCALES

The goal of Study 5 was to assess the ability of LTVM and LTVS to predict specific work related outcomes. Study 5 and the following studies constitute the last step recommended by Hinkin (1998), the establishment of criterion-related validity. The focus in this study was primarily on outcome relations of LTVM and LTVS, not of the ETV scales. The latter are examined in Study 6.

The outcomes for this study were partially selected because they have previously been the focus of meta-analyses that investigated their relation with chronological age. Since these meta-analyses (Mc Evoy & Cascio, 1989; Ng & Feldman, 2008; Sturman, 2003) have not clarified how age is related to work related outcomes (see Kubeck et al. [1996] for an exception), these analyses were replicated with LTVM and LTVS as predictors. Second, outcomes were selected if they seemed likely to be sensitive to the shift of individuals' values (away from knowledge related towards emotionally relevant) discussed in the introduction.

Job performance. Job performance has frequently been associated with age (Ackerman, 2000; Avolio, Waldman, & McDaniel, 1990; Cleveland & Shore, 1992; Gilbert, Collins, & Valenzi, 1993; Giniger et al., 1983), but relations have been mixed and overall very small in magnitude. In this context, it was interesting to assess whether LTV scales can predict job performance better than chronological age does. Overall, it was predicted that LTVM is positively and that LTVS is negatively related to job performance. This proposition is based on the general assumption that with a decrease of the LTV, individuals will gravitate toward emotionally meaningful goals and away from knowledge related goals. This means on the one hand that success at work (driven by high job performance) may lose its inherent value as individuals generally shift towards family and acquaintances when the future is curtailed (Carstensen et al., 2003). On the other hand, individuals will decrease effort and lower their job performance because the benefits of high job

performance (e.g., raises or promotions) cannot manifest as the future is curtailed. For example, an individual with low LTVM may feel that factors other than his/her career have gained importance so that "going the extra mile" and spending extra effort on the job is no longer valuable to this person. Similarly, those individuals who are thinking intensively about the LTV (i.e., have high LTVS) will perform at a lower level than their low LTVS counterparts.

Hypothesis 6.1a: LTVM is positively related to job performance

Hypothesis 6.1b: LTVS is negatively related to job performance

Personal initiative. Sturman (2003) and recently Feldman and Ng (2008) have pointed out that relations between age and specific forms of job performance are more likely to be found than a relation between age and global job performance. Parallel to this postulate, in this study LTV scales were related to a specific type of job performance, personal initiative (Bolino & Turnley, 2005). Personal initiative is a organizational citizenship behavior that reflects "task-related behaviors at a level that is so far beyond minimally required or generally expected level that it takes on a voluntary flavor" (Podsakoff, MacKenzie, Paine, & Bachrach, 2000, p. 524). Especially this quasi-voluntary behavior should be affected by shifts in value, as it is by definition under the discretion of the individual. Individuals may be under strict social norms to perform well in terms of in-role behavior, but may be able to avoid going beyond these expectations. In addition, this specific type of OCB is likely to directly interfere with emotionally relevant goals achieved through interactions with meaningful others, as it requires longer work hours and accessibility during time off work.

Hypothesis 6.2a: LTVM is positively related to personal initiative.

Hypothesis 6.2b: LTVS is negatively related to personal initiative.

Work-Family Conflict. Work-Family conflict (WFC) has been reported in the past to be negatively related to relationship satisfaction and relationship agreement (Judge, Boudreau, &

Bretz, 1994; Netemeyer, Boles, & McMurrian, 1996) and generally to affect family life (Ford, Heinen, & Langkamer, 2007). Individuals who have shifted away from knowledge related goals and intend to experience more emotionally relevant goals may rely on their family and friends to set and help accomplish these goals (Carstensen et al., 2003). Whereas in this study it was not attempted to assess the shift of values itself, it was hypothesized that with a decrease in LTV, WFC should increase as family time may be more coveted for the purpose of experiencing emotionally meaningful goals.

Hypothesis 6.3a: LTVM is negatively related to work-family conflict.

Hypothesis 6.3b: LTVS is positively related to work-family conflict.

Job satisfaction & Organizational Commitment. Job satisfaction and organizational commitment have been investigated as potential outcomes of chronological age in the past (Hedge et al., 2006; Warr, 1994). Typically, positive relations are found, suggesting that satisfaction and commitment increase with age. To compare with extant studies, the relation of job satisfaction with LTV scales was investigated. Again, the general shift towards emotionally relevant goals should lead to a decrease in interest in the job and a decrease in job satisfaction. Similarly, affective organizational commitment should decrease as the individual shifts his/her emotional attachment away from the organization towards emotionally relevant life partners.

Hypothesis 6.4a: LTVM is positively related to job satisfaction.

Hypothesis 6.4b: LTVS is negatively related to job satisfaction.

Hypothesis 6.5a: LTVM is positively related to affective organizational commitment.

Hypothesis 6.5b: LTVS is negatively related to affective organizational commitment.

Job & Work Involvement. A central test of the theory proposed in this dissertation was to investigate whether the centrality of work actually decreases as a result of a decreasing LTV. Whereas the outcomes above are rather distal variables, the value of work itself is a more

proximal manifestation of the shift in values. The centrality of work has been researched in the context of work and job involvement. Work involvement has been defined as "the importance of work to the total self-image" (Lodahl & Kejnar, 1965, p. 24). Job involvement has been differentiated from work involvement (Kanungo, 1982; Sverko & Vizek-Vidovic, 1995) and focuses more on a specific job, not work in general. Therefore, differences in the relation between LTV scales with work and job involvement may be informative in terms of whether work in general, or only a particular job, loses its centrality for an individual. It was assumed that individuals with small LTVM and high LTVS are less involved in their specific job and work in general.

Hypothesis 6.6a: LTVM is positively related to job involvement.

Hypothesis 6.6b: LTVS is negatively related to job involvement.

Hypothesis 6.7a: LTVM is positively related to work involvement.

Hypothesis 6.7b: LTVS is negatively related to work involvement.

Interactions with Job Characteristics

In the previous study initial evidence was found that the general decrease in an individual's LTV may not necessarily lead to a decrease in work effort. Specifically, in Study 4, accomplishment striving was *positively* related to LTVM, indicating that individuals increase their accomplishment motivation with decreases in LTV. From a more theoretical vantage point, it is plausible that various emotionally meaningful outcomes can be obtained through activities at work. Work has also been shown previously to be a source of meaningfulness (Friedman, E. A. & Havighurst, 1954; Mor Barak, 1995). In fact, central tenets of the job characteristics model (Hackman & Oldham, 1975, 1976) state that three job dimensions (task identity, task significance, and skill variety) will lead to experienced meaningfulness of the job. In addition,

work autonomy is believed to lead to experiencing responsibility, which also may be relevant for the feeling of meaningfulness. Building on this theory, this analysis used these core dimensions and two measures of work autonomy as moderators of the LTV-outcome relations. The underlying logic is: if individuals are in a work environment in which they have the opportunity to experience meaning (and responsibility), they do not need to disengage from work (e.g., lower their job involvement) or reduce work efforts, as these activities themselves may be sources of meaningfulness. In consequence, the relation proposed above should particularly exist for individuals with unfavorable work environments, that is, environments with low task variety, identity, job significance or autonomy. In contrast, individuals in favorable work environments should not experience the overall disengagement from work. It is conceivable that for those individuals there will even be an increase in overall engagement. Therefore, the previous Hypotheses are amended:

Hypothesis 6.8: The relation between LTVM [LTVS] and the outcome is moderated by job characteristics. The relation will be stronger for individuals in unfavorable job conditions than for individuals in favorable job conditions.

Methods

Participants

For this analysis, only individuals older than 40 years were selected for inclusion. This was based on the rationale that individuals younger than 40 have not had any reason to experience life as limited and, therefore, have not developed life time vectors. The resulting number of participants was N=387 with an average age of 52.0 years (SD=7.2).

About 55 percent were male and was almost all were Caucasian (99%). The majority were college educated with 49 percent having obtained at least a bachelor's degree, 37 percent having

obtained a master's degree, and 13 percent having obtained a professional degree (doctoral degree, MD, law degree). Participants had on average 29 years of work experience (SD=8.4).

Participants were working in various industries which are presented in Table 6.1. The most frequent occupations were education (23%), management (12%), business and financial operations (10%), and architecture and engineering (7%). About 10% of the respondents were self-employed. On average, participants were working 46 hours per week (SD=8.8).

Participants were mostly married or living in partnerships (81%), and were living in households with on average 2.8 members (SD=1.2). Twenty-one percent of all participants had no children, 12 percent had one, and 64 percent had at least two children. Although the median annual household income was around $120,000, participants' income ranged from $20,000 to over $200,000. Table 6.2 displays the complete distribution.

Participants were again given four short vignettes that summarized possible retirement situations. About 40 percent of the participants agreed that they are too young to consider retirement, while 28 percent agreed that they would like to retire but are still waiting to complete their retirement preparations. Seventeen percent agreed that they could retire any time, but that they are continuing to work. Thirteen percent agreed that they must retire, although they would prefer to continue working. Further, participants reported that their preferred TRR is on average 9.4 years (SD=7.3) and that their anticipated TRR is on average 12 years (SD=7.54). The most common retirement plan was to stop working altogether (22.2%), while16.3 percent planned to changed jobs, 14.6 percent planned to reduce work hours but keep their job, 14.4 percent had no current plans, and 13.3 percent planned to start working for themselves. The detailed distribution is displayed in Table 6.3.

Measures

On the predictor side, measures were identical to those used in Study 4. Specifically, ETV and LTV scales were identical, as well as the organization commitment scale, and the job satisfaction scale.. As a measure of Future Time Perspective, the modified FTP scale (FTPmod) was used. In the modified scale three items were removed that showed particularly high correlations with LTVM. The assessment of demographic variables was also identical to Study 4. Means, standard deviations, and internal consistencies of all measures involved in this study can be found in Table 6.4

Moderators

To evaluate the capacity of the work situation to provide emotionally meaningful goals at work, Morgeson and Humphrey's (2006) work design questionnaire (WDQ) was administered. The WDQ is comparable to the Job Characteristics Survey (Hackman & Oldham, 1976), but the WDQ includes various job characteristics that are not included in previous instruments (e.g., ergonomics, feedback from job vs. feedback from others). For this study four subscales were used which were likely to be associated with experiencing meaningfulness at the work place. The included scales were work scheduling autonomy (example item: "The job allows me to make my own decisions about how to schedule my work"), decision-making autonomy (example item: "The job allows me to make a lot of decision on my own"), task variety (example item: "The job involves doing a number of different things"), and job significance (example item: "The job has a large impact on people outside the organization").

Outcome variables.

Job involvement. Job involvement was assessed through the Job Involvement Questionnaire (Kanungo, 1982). This questionnaire seemed particularly suitable as it directly taps

into the centrality of the specific job in the individual's life (e.g., "I consider my job to be very central to my existence").

Work involvement. Work involvement items were taken from Kanungo (1982) and Paullay et al. (Paullay, Alliger, & Stone-Romero, 1994), totaling 12 items. Sample item are: "I have other activities more important than my work", and "Work should be considered central to life". Work involvement was added to job involvement as many participants in previous studies had indicated that a complete withdrawal is not an option, but that they plan to work in some form as long as they can. Therefore, it seemed necessary to cover both domains, the specific job currently held but also work in general.

Job Performance and Personal Initiative. Job performance was conceptualized as in role behaviors (as opposed to organization citizenship behavior). Williams and Anderson' s (1991) measure was used. Due to the recruitment method, no 3rd party ratings of job performance were available, so a self-report measure was used. Personal initiative was measured through a scale developed by Bolino and Turnley (2005). This scale primarily focuses on behaviors that go beyond typical in-role performance, such as working during vacations, or bringing work home. An example item is "I work on my days off".

Work-Family Conflict. Work-Family Conflict (WFC) was assessed through an instrument developed by Netemeyer, Boles, and McMurrian (1996). Sample items are "The demands of my work interfere with my home and family life," and "The amount of time my job takes up makes it difficult to fulfill family responsibilities".

Results

Descriptive Statistics

In Table 6.4 all means, standard deviations, and correlations can be found. It is noteworthy that in this sample the correlations were generally similar or very similar to the correlations found in Study 4. The strong relations between LTVM and FTP and between TRR and ETVM were also found in this sample.

Predictive Validity.

Similar to Study 4, tests of the impact of the newly formed variables on various dependent variables were made using a series of hierarchical regression analyses. In the first step of each multiple regression, competing or traditional predictors of the respective outcome were included, as well as some demographic variables. In steps 2-5, the new measures were entered in separate steps. For all analyses, residuals were checked for heteroscedasticity and higher order trends. For the test of interactions, moderated multiple regression analyses were used. Interaction terms were created by multiplying predictor and moderator and entering them in the hierarchical regression model. For the purpose of plotting, all involved predictors were mean centered (Cohen et al., 2003). All regression results are presented in Table 6.5 to 6.7

Job performance. As predicted, LTVM was positively related to job performance ($b = 0.15$, $p < .05$), providing support for Hypothesis 6.1a. Thus, the smaller the magnitude of the LTV, the lower is a person's job performance. It is noteworthy that this relation was maintained when all competing variables were also in the model. In contrast, Hypothesis 6.1b was not supported: LTVS was not significantly related to job performance ($b = 0.01$, n.s.). In addition, age, TRL, and FTP did not explain variance in the dependent variable. This strengthens the assumption that LTVM is distinct from these extant measures.

Further, it was assessed whether job characteristics influenced the relation between LTVM and job performance. For this purpose, the interaction terms of LTVM with task variety, job significance, task identity, decision and scheduling autonomy, and social support were entered into the model. Of the six job characteristics only the interaction term with task variety was significant ($b = -0.86$, $p < .05$). The interaction was plotted to clarify the nature of the relationship. Figure 6.1 shows that for individuals with high task variety LTVM is only weakly negatively related with job performance. Individuals in jobs with high task variety who have small LTVs display almost the same level of job performance as individuals with high LTVs. In contrast, for individuals with jobs that have low task variety, small LTVM is more strongly negatively associated with job performance.

Personal initiative. Personal initiative was assumed to be a more sensitive test of the effects of LTVM and ETVS, as it was likely that the extra initiative is almost completely discretionary behavior. However, contrary to Hypothesis 6.2a, LTVM was negatively related to personal initiative ($b = -0.12$, $p < .05$). Low levels of LTVM were associated with higher levels of personal initiative. LTVS was not significantly related ($b = -0.03$, n.s.). Again, it is noteworthy that age, TRL, and FTP did not contribute to the fit of this model.

A more detailed analysis of the interactions with job characteristics provided evidence that job characteristics moderated the relation between LTVM and personal initiative. Specifically, as depicted in Figure 6.2, task variety strongly affected the relation ($b = -1.31$, $p < .01$). For individuals in jobs with high task variety, a decrease in LTVM was associated with a stronger increase of personal initiative than for individuals with low task variety, providing some support for Hypothesis 6.8.

Similarly, the interaction of LTVM and decision making autonomy (Figure 6.3; $b = -0.82$, $p < .01$) even more clearly underlines the importance of the work environment. For

individuals with low levels of autonomy, LTVM is unrelated to personal initiative. For individuals with high levels of autonomy, small LTVM is associated with high levels of personal initiative and large LTVM is associated with low levels of personal initiative. A very similar interaction pattern was found for scheduling autonomy ($b = -0.77$, $p < .05$; Figure 6.4). Again, whereas no relationship existed for individuals with low autonomy, a strong negative relationship was found for individuals with high autonomy.

Although the main effect of LTVS was not significant ($b = 0.03$, n.s.), LTVS interacted with scheduling autonomy ($b = 0.85$, $p < .05$) and with decision making autonomy ($b = 0.84$, $p < .05$). As shown in Figures 6.5 and 6.6, for individuals in favorable conditions, high levels of LTVS were associated with high levels of personal initiative. For individuals in unfavorable conditions, the opposite was the case. It appears that not only LTVM but also LTVS may trigger a shifting away from work in unfavorable conditions and a focusing on work in favorable conditions.

Work-Family Conflict. For WFC neither LTVM ($b = -0.03$, n.s.) nor LTVS ($b = -0.03$, n.s.) were significant, failing to provide support for Hypotheses 6.3a and 6.3b. Again, to assess whether the relations of LTVM and LTVS were moderated by job characteristics, all interaction terms of job characteristics and LTVM and LTVS were included in individual steps. LTVM ($b = -1.20$, $p < .01$) interacted with task variety. The interaction of LTVM with task variety is displayed in Figure 6.7. Whereas a weak positive relationship between LTVM and WFC was found for individuals in jobs with low task variety, a strong negative association was found for individuals with high variety jobs. This finding is in contradiction with Hypothesis 6.8: it was predicted that in favorable job situations there would be no (or perhaps a positive) relation between LTVM and WFC. Individuals in high variety work situations should be able to derive meaningful events from the job, not being dependent on non-work sources of meaningfulness.

Therefore, additional time with family may be less valued and less WFC may exist for these individuals.

LTVS interacted with task variety ($b = 1.12$, $p < .01$) and also with job significance ($b = 0.66$, $p < .01$), and scheduling autonomy ($b = .77$, $p < .01$). The plots are displayed in Figures 6.8-6.10. In all three instances, individuals in favorable conditions (high autonomy and high variability) experienced more WFC when LTVS was high as compared to their low LTVS counterparts. In contrast, individuals in unfavorable conditions experienced *less* WFC when LTV was salient as compared to individuals with low LTVS. This finding directly contradicted the predictions made about the effects of job characteristics (Hypothesis 6.8).

Job satisfaction. For job satisfaction neither LTVM ($b = 0.07$, n.s.) nor LTVS ($b = 0.02$, n.s.) were significant predictors, failing to provide support for Hypothesis 6.4a and 6.4b. LTVM interacted with scheduling autonomy ($b = -0.72$, $p < .01$). The interaction plot suggests (see Figure 6.11) that individuals in unfavorable work conditions (e.g., low autonomy) experience a strong decrease in job satisfaction. In contrast, individuals with high scheduling autonomy do not display a relation of LTVM and job satisfaction.

LTVS also interacted with scheduling autonomy ($b = 0.66$, $p < .05$). High levels of LTVS were associated with high levels of job satisfaction, but only for individuals with high scheduling autonomy (Figure 6.12). In contrast, only a weak negative relation between LTVS and job satisfaction existed for individuals with low scheduling autonomy.

Affective organizational commitment. Neither LTVM ($b = 0.01$, n.s.) nor LTVS ($b = 0.04$, n.s.) significantly contributed to the regression model. The only competing variable that was significantly related with organizational commitment was FTP. However, the magnitude of the relationship was relatively small ($b = 0.13$, $p < .01$). Further, no interaction terms of LTVM and LTVS with job characteristics were significant.

Job involvement. Neither LTVM (b = -0.08, n.s.) nor LTVS (b = 0.10, n.s.) had significant main effects in the prediction of job involvement. In contrast, FTP was substantially related (b = --0.18, $p < .01$) to job involvement, but age was not significantly related. Again, interaction terms were created with LTVM and LTVS and the job characteristics assessed in the questionnaire. The interaction terms of LTVM and task variability (b = -1.22, $p < .01$) and decision making autonomy (b = -0.86, $p < .05$) were significant (Figures 6.13 and 6.14). In both cases for individuals with favorable work environments (e.g., task variety or high social support) a decrease of LTVM was associated with an *increase* in job involvement. For these individuals the results suggest that the less LTV is there, the more central is their job. In contrast, individuals in an unfavorable work condition tended to display a decrease in job involvement as LTV decreased.

Similarly, decision making autonomy (b = 0.79, $p < .05$) interacted with LTVS (see Figure 6.15). For individuals with a high autonomy level, increases in LTVS lead to higher levels of job involvement. In contrast, for individuals with low levels of autonomy an increase in LTVS was associated with lower levels of job involvement.

Work involvement. LTVM was not significantly related to work involvement (b = -0.05, n.s.), failing to support Hypothesis 6.7a. LTVS was significantly related but in the opposite direction of the prediction (b = 0.18, $p < .01$), failing to support Hypothesis 6.7b. Again, a brief look at competing variables reveals that FTP was significant (b = -0.16, $p < .01$). In contrast, age was not significantly to work involvement. Again, both LTVM and LTVS formed significant interaction terms with some of the job characteristics. LTVM interacted with task variety (b = -0.85, $p < .05$) and decision autonomy (b = -1.00, $p < .05$). The interaction plots are displayed in Figures 6.16 and 6.17, implying that, again for individuals in favorable work situations, the decrease of LTVM is associated with an increase in work involvement. For individuals in less

favorable circumstances, the decrease is associated with a decrease of work involvement. A similar picture was produced by the interaction of LTVS with decision making autonomy (b =.84, $p < .05$). Here, an increase in LTVS led to an increase in work involvement, however, only for individuals with high levels of autonomy (see Figure 6.18).

Discussion: Study 5

The central purpose of this study was to evaluate the ability of the LTVM and LTVS scales to predict work related outcomes. Among these outcomes were frequently investigated constructs that are of general interest to our field, such as organizational commitment and job performance. In addition, some outcomes were included that may allow to better understand the psychological effects of decrease in LTVM and LTVS. Specifically, job and work involvement were investigated. The main effects of LTVM and, especially, LTVS did not support the central hypotheses of this study. For some variables the relation was opposite to the predicted direction. For example, LTVM was negatively related to personal initiative. Individuals who perceived their LTV to be short actually showed more personal initiative.

The overall pattern of main effects suggests that the central theoretical assumptions did not adequately capture the complexity of the psychological mechanisms linking LTVM, LTVS, and the respective outcomes. The shrinking of the LTV (and increased thinking about it) may *not* lead to the individual gravitating away from the job and toward family and friends. Rather, it may be the case that individuals gravitate towards more emotionally meaningful goals – as predicted by Carstensen's Socioemotional selectivity theory (Carstensen et al., 1999), but that these emotionally meaningful goals may be located within work-life.

In the beginning of this study this possibility was recognized and a variety of constructs were measured that have been associated in the past with a state of meaningfulness at work

(Hackman & Oldham, 1975, 1976; Morgeson & Humphrey, 2006). It was essentially assumed that if the job is suitable to set and attain emotionally meaningful goals, individuals would not have to turn away from their job. Thus, the general 'gravitating away' would not take place for individuals in enriched work settings. A decrease in centrality, work effort, job satisfaction, and commitment would only exist for individuals in unfavorable work conditions. This is formally expressed in Hypothesis 6.8. This type of interaction was indeed found for a variety of interaction terms, supporting this theory. For most interactions, it was observed that for the unfavorable conditions a negative relation existed. Noteworthy is, that for most interactions in the subgroup of positive work conditions, a *negative* relation between LTVM and the outcome and a positive between LTVS and the outcome existed. This provides additional support for the notion that the desire for meaningful experiences increases and that this desire may be satisfied through experiences on the job.

In sum, there is at least some support for Hypothesis 6.8. It seems that some job characteristics are indeed suitable to act as buffers and even enhancers of relationships between LTVM, LTVS and work outcomes. Specifically, task variety served as an influential moderator, but also scheduling and decision making autonomy.

LTV and Future Time Perspective

LTVM, LTVS, and FTP were included in this investigation in the multiple regression models. This was done to allow a comparison of these two somewhat competing conceptualization of the aging process. It is noteworthy that FTP was modified to minimize overlap with LTVM by removing three items that were strongly overlapping. However, despite this modification, FTP was still a significant predictor of job and work involvement. Given the overall performance of LTVM, LTVS, *and FTP* in this study, it seems reasonable to assume that

prospective measures of the aging process can play a role in the explanation and prediction of work related behaviors and attitudes. In future studies it is recommended to focus on a combined measure of FTP and LTVM as a predictor of work related behaviors and attitudes.

Limitations

Clearly, this study only assessed a limited set of outcome variables. Although it was attempted to include as many variables as possible (the total questionnaire had over 130 items, not including the demographics section), there were limits to how much could be asked from participants. A central limitation, however, was the relatively small effect sizes and the small incremental variance that these variables explained. In most cases, including LTVM, LTVS, or the interaction term did not explain more than one percent of variance. Although the effects may be insightful and useful in understanding theoretical mechanisms, it is doubtful that they are practically relevant. Also, it should be mentioned that a large number of interaction terms did not reach conventional levels of significance. Clearly, there is a potential for Type-I error inflation.

Tables Chapter 6

Table 6.1
Distributions of occupations

Industry	Frequency	Percent
Management Occupations	47	12.24
Business and Financial Operations Occupations	39	10.16
Computer and Mathematical Occupations	25	6.51
Architecture and Engineering Occupations	28	7.29
Life, Physical, and Social Science Occupations	9	2.34
Community and Social Services Occupations	9	2.34
Legal Occupations	9	2.34
Education, Training, and Library Occupations	87	22.66
Arts, Design, Entertainment, Sports, and Media Occupations	9	2.34
Healthcare Practitioners and Technical Occupations	19	4.95
Healthcare Support Occupations	11	2.86
Protective Service Occupations	6	1.56
Food Preparation and Serving Related Occupations	4	1.04
Building and Grounds Cleaning and Maintenance Occupations	1	0.26
Personal Care and Service Occupations	22	5.73
Sales and Related Occupations	14	3.65
Office and Administrative Support Occupations	4	1.04
Farming, Fishing, and Forestry Occupations	3	0.78
Construction and Extraction Occupations	3	0.78
Installation, Maintenance, and Repair Occupations	6	1.56
Production Occupations	5	1.3
Transportation and Material Moving Occupations	7	1.82
Military Specific Occupations	17	4.43

Table 6.2
Income distribution

Income	Frequency	Percent	Cumulative Percent
Less than $20,000	1	0.3	0.3
$20,001-$40,000	15	4.1	4.4
$40,001-$60,000	26	7.1	11.4
$60,001-$80,000	47	12.8	24.2
$80,001-$100,000	55	15.0	39.1
$100,001-$120,000	54	14.7	53.8
$120,001-$140,000	40	10.9	64.7
$140,001-$160,000	38	10.3	75.0
$160,001-$180,000	17	4.6	79.6
$180,001-$200,000	24	6.5	86.1
more than $200,000	51	13.9	100.0

Table 6.3
Distribution of retirement plans

Retirement Plan	Frequency	Percent
stop working altogether	82	22.2
never stop working	14	3.8
not given much thought	26	7.1
no current plan	53	14.4
reduce work hours (but keep this job)	54	14.6
change work	60	16.3
work for myself	49	13.3
work until my health fails	31	8.4

Table 6.4

Means, Standard Deviations, and Bivariate Correlations (Continued on next page)

	Mean	SD	LTVM	LTVS	ETVM	ETVS	Age	Sex	TRR	Health	FTP	DM Auton.	Sched. Auton.
LTVM	4.38	1.30	*.86*										
LTVS	3.86	1.28	-.50	*.86*									
ETVM	5.14	1.44	.34	-.22	*.92*								
ETVS	2.72	1.32	-.33	.35	-.70	*.88*							
Age	47.34	10.02	-.28	.08	-.56	.29	*na*						
Sex	1.47	0.50	.09	-.02	.14	-.10	-.15	*na*					
TRR	16.13	9.77	.25	-.09	.71	-.48	-.79	.09	*na*				
Health	4.14	0.81	.32	-.18	.01	-.06	.00	-.03	.00	*na*			
FTP	4.60	1.11	.52	-.34	.17	-.17	-.18	.12	.11	.22	*.90*		
DM Autonomy	5.83	1.07	.07	-.07	.05	-.13	.15	-.04	-.13	.06	.19	*.87*	
Scheduling Aut.	5.70	1.14	.06	-.10	.05	-.12	.12	-.01	-.08	.04	.15	.74	*.88*
Task Variety	6.12	0.79	.07	-.09	.03	-.11	.08	.07	-.10	.01	.28	.50	.42
Job Significance	5.47	1.32	.05	.04	.00	-.04	.13	.01	-.11	.03	.32	.35	.21
Job Involvement	3.77	1.06	-.13	.10	.02	-.12	.13	-.04	-.06	-.08	-.06	.25	.18
Job Performance	6.34	0.60	.15	-.10	.03	-.06	.01	.18	-.05	.04	.15	.20	.16
Personal Initiative	4.38	1.39	-.07	.04	.05	-.08	.00	-.07	.02	-.03	.13	.17	.11
Work Involvement	3.21	0.96	-.15	.13	-.07	-.08	.23	-.09	-.11	-.04	-.17	.12	.06
Work-Family C.	3.63	1.58	-.10	.10	-.01	.09	-.13	.08	.10	-.14	-.03	-.13	-.19
Job Satisfaction	5.60	1.09	.11	-.10	.06	-.28	.21	.05	-.13	.09	.18	.53	.43
Aff. Org. Com.	4.92	1.38	.06	-.05	.06	-.18	.18	.01	-.12	.03	.21	.43	.33

Table 6.4 *continued*

	Task Variety	Job Signif.	Job Inv.	Job Perf	Personal Initiative	Work Inv	WFC	Job Sat.	Aff. Org. Com
Task Variety	*.90*								
Job Significance	0.46	*.91*							
Job Involvement	0.27	0.23	*.87*						
Job Performance	0.27	0.17	0.02	*.84*					
Personal Initiative	0.26	0.19	0.52	-0.02	*.89*				
Work Involvement	0.09	0.06	0.71	-0.09	0.36	*.87*			
Work-Family C.	0.07	0.08	0.21	-0.10	0.37	0.10	*.95*		
Job Satisfaction	0.37	0.33	0.33	0.27	0.13	0.21	-0.23	*.91*	
Aff. Org. Com.	0.34	0.35	0.43	0.13	0.26	0.22	-0.08	0.62	*.75*

Note: All correlations above .12 are significant at p<.01; correlations above .09 are significant at p<.05. WFC = Work-Family Conflict, Factor 1 = Subscale of job involvement scales by Lodahl & Kejner (1965) (see text for more details). Numbers on diagonal in italics display coefficient alphas of respective scale.

Table 6.5

Multiple Regression Results (Hypotheses 6.1 – 6.3)

	Job Performance					Personal Initiative					Work-Family Conflict				
	Beta	Std. Error	b	R^2	ΔR^2	Beta	Std. Error	b	R^2	ΔR^2	Beta	Std. Error	b	R^2	ΔR^2
Age	-0.01	0.01	-0.11			0.00	0.01	0.01			-0.01	0.02	-0.04		
Gender	0.15	0.06	0.14*			-0.24	0.15	-0.08			0.32	0.16	0.10		
TRR	-0.01	0.01	-0.15*			0.02	0.01	0.08			0.02	0.01	0.09		
FTP	0.02	0.03	0.04			0.05	0.07	0.04			-0.10	0.08	-0.07		
Aff. Org Commitment	-0.07	0.03	-0.17*			0.30	0.07	0.30**			0.08	0.08	0.07		
Job Sat.	0.11	0.04	0.22*			-0.07	0.09	-0.06			-0.41	0.10	-0.29**		
Health	0.05	0.04	0.07			-0.12	0.09	-0.07			-0.16	0.10	-0.08		
Task Variety	0.11	0.05	0.15*			0.41	0.12	0.23**			0.33	0.13	0.16*		
Job Significance	0.04	0.03	0.09			0.06	0.07	0.06			0.14	0.08	0.11		
Scheduling Autonomy	-0.03	0.04	-0.07			-0.18	0.09	-0.15*			-0.40	0.10	-0.28**		
Decision Making Autonomy	0.07	0.05	0.13	.173	.173	0.00	0.12	0.00	.168	.168	0.11	0.13	0.07	.188	.188
	Step 2: ETVM					**Step 2: ETVM**					**Step 2: ETVM**				
	0.02	0.07	0.04	.174	.001	0.02	.07	0.02	.168	.000	-0.186	.08	-0.18*	.203	.015
	Step 3: ETVS					**Step 3: ETVS**					**Step 3: ETVS**				
	0.00	0.03	0.00	.174	.000	-0.94	.09	0.09	.172	.003	-0.07	.09	-0.06	.205	.001
	Step 4: LTVM					**Step 4: LTVM**					**Step 4: LTVM**				
	0.07	0.03	0.15*	.187	.013	-0.16	.07	-0.14	.183	.012	-0.03	.08	-0.03	.205	.001
	Step 5:LTVS					**Step 5:LTVS**					**Step 5:LTVS**				
	0.02	0.03	0.05	.189	.002	0.03	.07	0.02	.184	.000	-0.04	.08	-0.03	.206	.001
	Step 6: LTVM*Task Variety					**Step 6: LTVM*Task Variety**					**Step 6: LTVM*Task Variety**				
	-0.04	0.03	-0.86	.199	.010	-0.21	.067	-1.31**	.208	.024	-0.21	.074	-1.20**	.226	.020
						Step 6: LTVM*Decision Autonomy					**Step 6: LTVS*Task Variety**				
						-0.17	0.06	-1.10**	0.205	.021	.02	0.08	1.12	.225	.019
						Step 6: LTVM*Scheduling Autonomy					**Step 6: LTVS*Job Significance**				
						-0.117	0.05	-0.77*	0.196	.013	.12	0.04	0.66	.218	.013
						Step 6: LTVS*Scheduling Autonomy					**Step 6: LTVS*Scheduling Autonomy**				
						.146	.048	0.85	.202	.018	0.15	0.06	0.765*	.220	.015
						Step 6: LTVS*Decision Autonomy									
						.145	.06	0.84	.199	.015					

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Table 6.6
Multiple Regression Results (Hypotheses 6.4 and 6.5)

	Job Satisfaction						Affective Organization Commitment					
Variables entered	B	Std. Error	b	R^2	ΔR^2		Variables entered	B	Std. Error	b	R^2	ΔR^2
age	0.02	0.01	0.09				age	0.02	0.01	0.11		
sex	0.16	0.09	0.07				sex	-0.15	0.12	-0.06		
TRR	0.01	0.01	0.05				TRR	0.01	0.01	0.04		
FTP	-0.02	0.05	-0.02				FTP	0.16	0.06	0.13**		
Affect.Org. Commit.	0.36	0.04	0.45**				Job Satisfaction	0.63	0.07	0.50**		
Health	0.14	0.06	0.10*				Health	-0.07	0.08	-0.04		
Task Variety	0.06	0.07	0.04				Task Variety	0.09	0.10	0.05		
Job Significance	0.03	0.04	0.03				Job Significance	0.09	0.06	0.08		
Sched. Autonomy	0.16	0.06	0.16*				Sched. Autonomy	-0.04	0.08	-0.03		
Decision Making Aut.	0.18	0.07	0.16	.463	.463		Decision Making Aut.	0.11	0.09	0.08	.415	.415
		Step2: ETVM							**Step2: ETVM**			
	0.11	0.04	0.14*	.472	.010			0.07	0.05	0.07	.419	.004
		Step3: ETVS							**Step3: ETVS**			
	-0.28	0.05	-0.35**	.541	.052			0.02	0.06	0.02	.419	.000
		Step4: LTVM							**Step4: LTVM**			
	0.06	0.04	0.07	.544	.003			0.02	0.05	0.01	.420	.000
		Step5: LTVS							**Step5: LTVS**			
	0.01	0.04	0.02	.545	.000			0.05	0.05	0.04	.420	.000
		Step6: LTVM*Scheduling Autonomy										
	-0.09	0.03	-0.72*	.556	.011							
		Step6: LTVS*Scheduling Autonomy										
	0.09	0.03	0.66*	.556	.011							

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Table 6.7: *Multiple Regression Results (Hypotheses 6.6 and 6.7)*

	Work Involvement					Job Involvement				
Variables	b	Std. Error	Beta	R^2	ΔR^2	b	Std. Error	Beta	R^2	ΔR^2
Age	0.04	0.01	0.26**			0.02	0.01	0.11		
Sex	-0.08	0.10	-0.04			-0.07	0.10	-0.03		
TRR	0.02	0.01	0.18**			-0.17	0.05	0.14*		
FTP	-0.13	0.05	-0.16**			0.02	0.01	-0.18**		
Aff. Org. Com.	0.10	0.05	0.15*			0.25	0.05	0.32		
Job Sat	0.19	0.06	0.22*			0.14	0.06	0.15*		
Health	-0.13	0.06	-0.11			-0.16	0.07	-0.12*		
Task Variety	0.06	0.08	0.05			0.12	0.08	0.09		
Job Sign.	0.01	0.05	0.02			0.10	0.05	0.12*		
Task Identity	-0.17	0.06	-0.20			-0.15	0.07	-0.16		
Sched. Autonomy	-0.02	0.08	-0.02**			0.05	0.08	0.05*		
Decision Autonomy	0.04	0.01	0.26	.187	.187	0.02	0.01	0.11	.265	.265
	Step2: ETVM					**Step2: ETVM**				
	0.05	0.05	0.01	.187	.000	0.00	0.05	0.00	.265	.000
	Step3: ETVS					**Step3: ETVS**				
	-0.06	0.06	-0.09	.190	.003	-0.07	0.06	-0.09	.269	.003
	Step4: LTVM					**Step4: LTVM**				
	-0.05	0.05	-0.06	.192	.002	-0.07	0.05	-0.08	.272	.004
	Step5: LTVS					**Step5: LTVS**				
	0.13	0.05	0.18**	.213	.021	0.08	0.05	0.10	.278	.006
	Step6: LTVM*Task Variety					**Step6: LTVM*Task Variety**				
	-0.09	0.04	-0.85*	.224	.010	-0.15	0.05	-1.22**	.302	.024
	Step6: LTVM*Decision Making Autonomy					**Step6: LTVM*Decision Making Autonomy**				
	-0.10	0.04	-1.00**	.231	.018	-0.098	0.04	-0.86*	.291	.013
	Step6: LTVS*Scheduling Autonomy					**Step6: LTVS* Decision Making Autonomy**				
	0.10	0.04	0.84**	.211	.018	0.10	0.04	0.79*	0.292	.014
	Step6: LTVS* Decision Making Autonomy									
	0.10	0.04	0.84*	.229	.015					

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Figure 6.1
Interaction of LTVM and Task Variety; Outcome: Job Performance

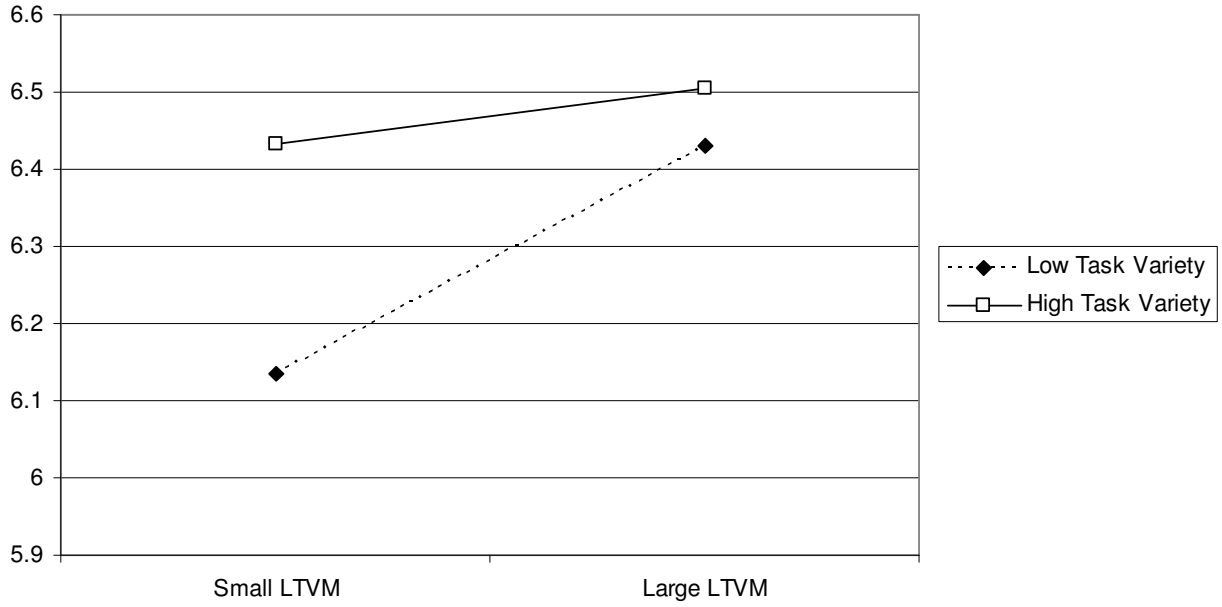


Figure 6.2
Interaction of LTVM and Task Variety; Outcome: Personal Initiative.

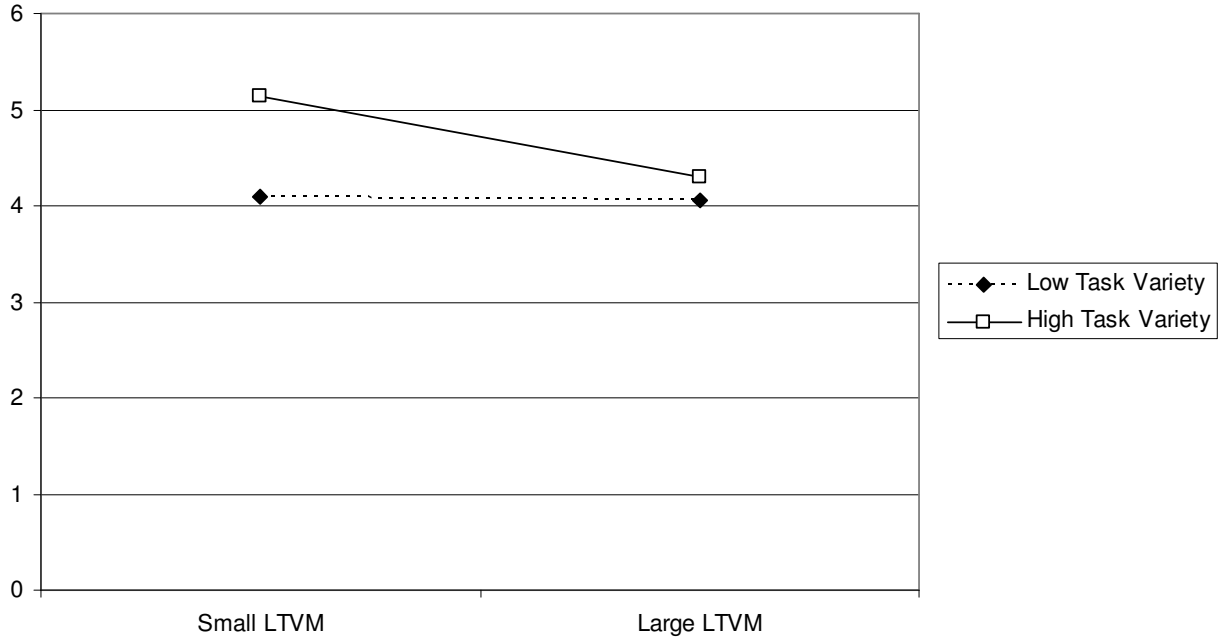


Figure 6.3
Interaction of LTVM and Decision Making Autonomy; Outcome: Personal Initiative

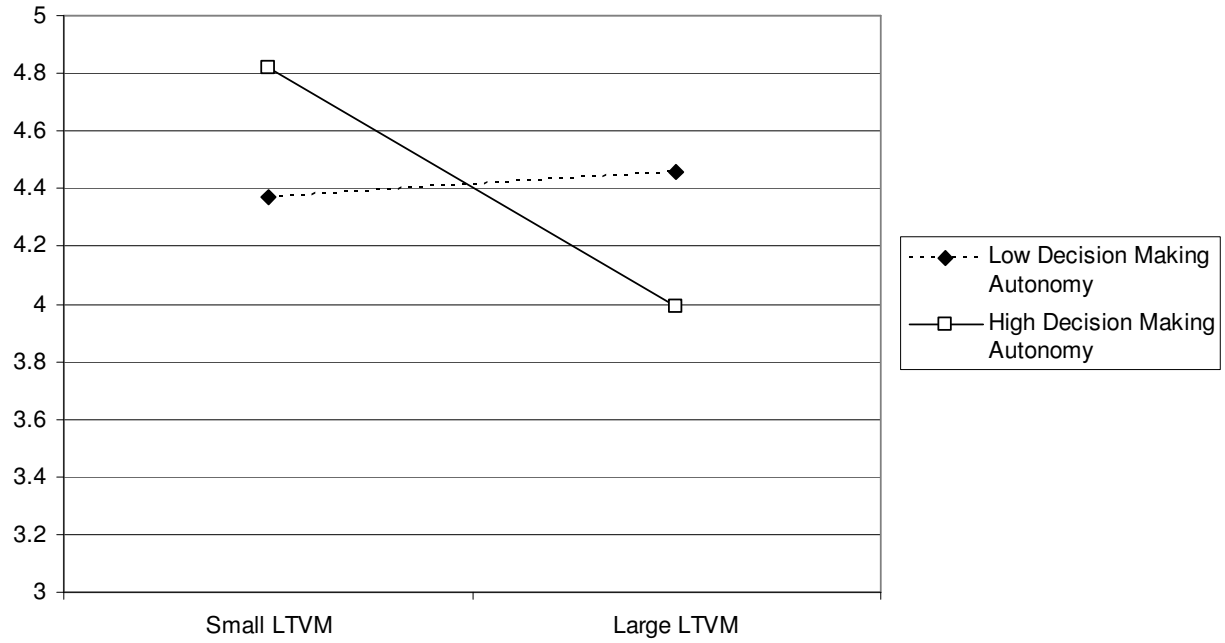


Figure 6.4
Interaction of LTVM and Scheduling Autonomy; Outcome: Personal Initiative

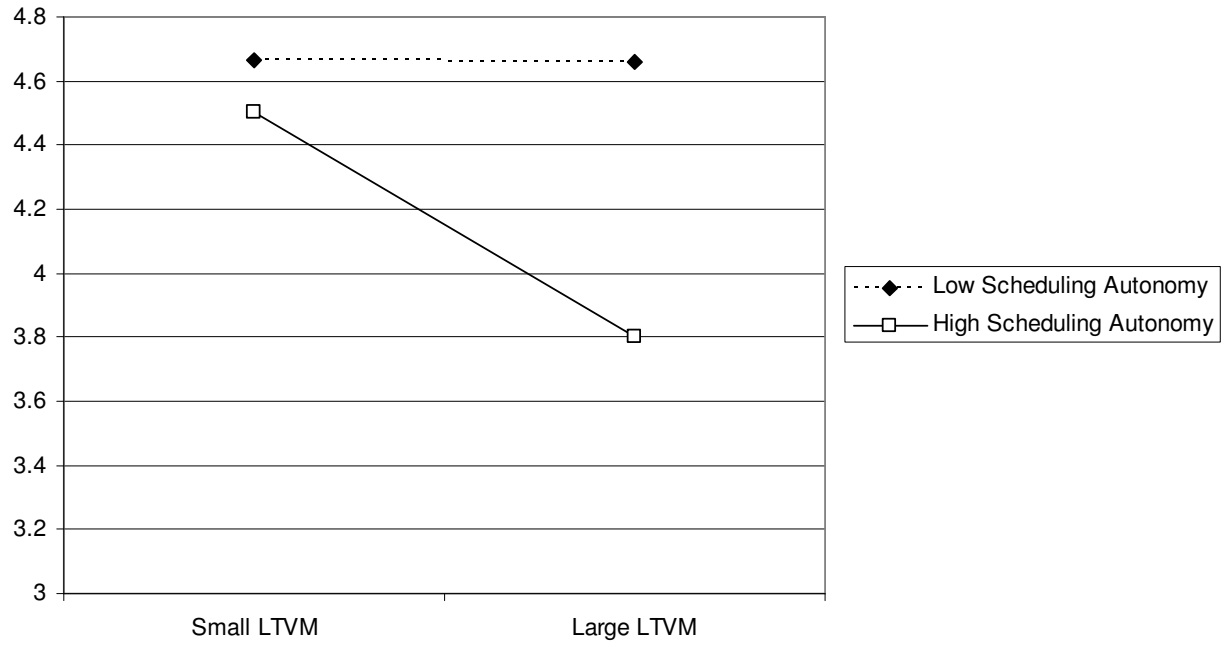


Figure 6.5
Interaction of LTVS and Scheduling Autonomy; Outcome: Personal Initiative

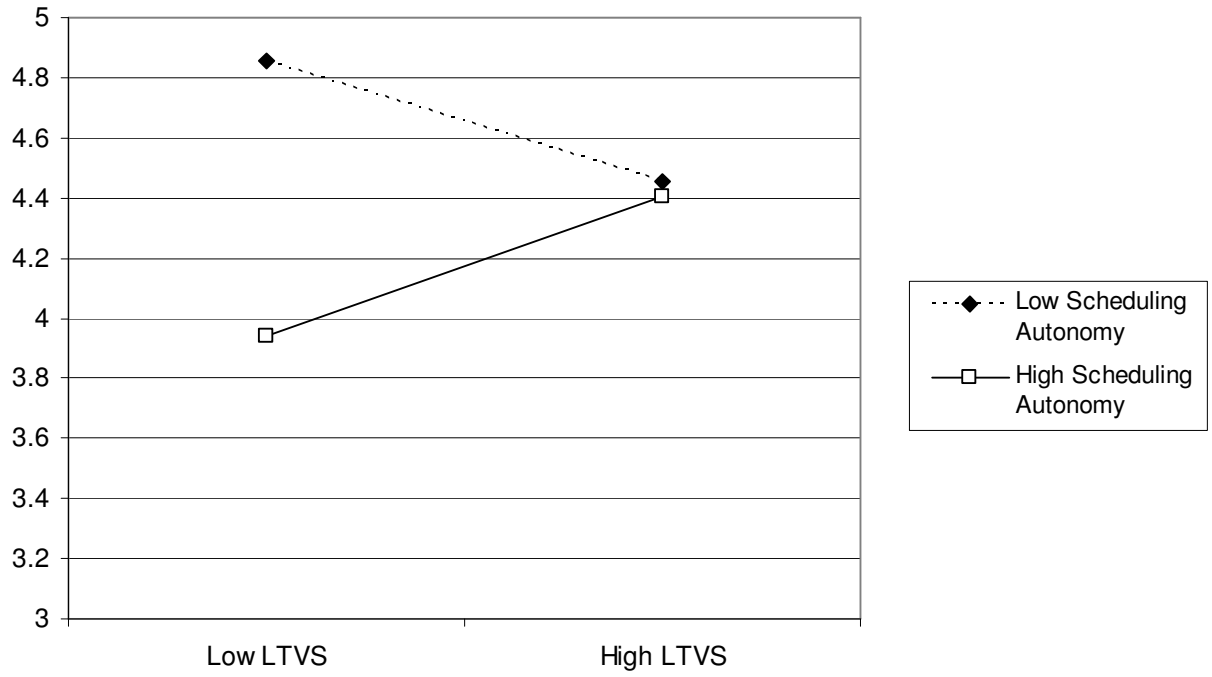


Figure 6.6
Interaction of LTVS and Decision Making Autonomy; Outcome: Personal Initiative

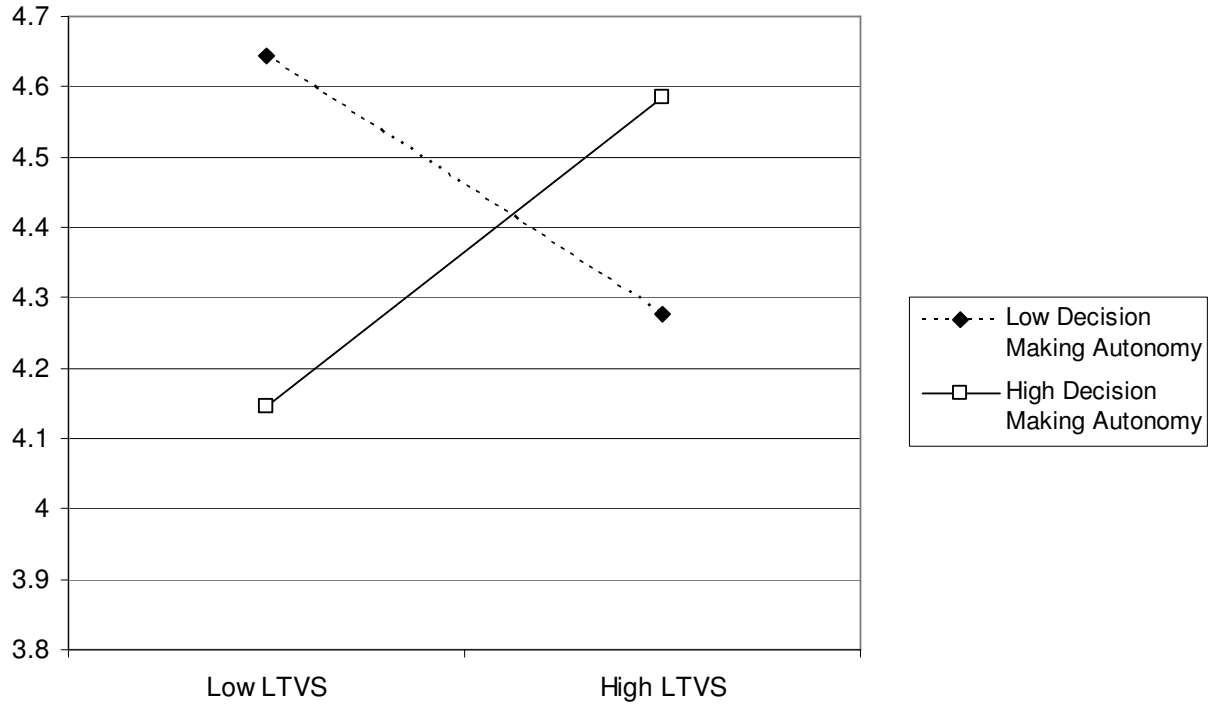


Figure 6.7
Interaction of LTVM and Task Variety; Outcome: Work in Family Conflict

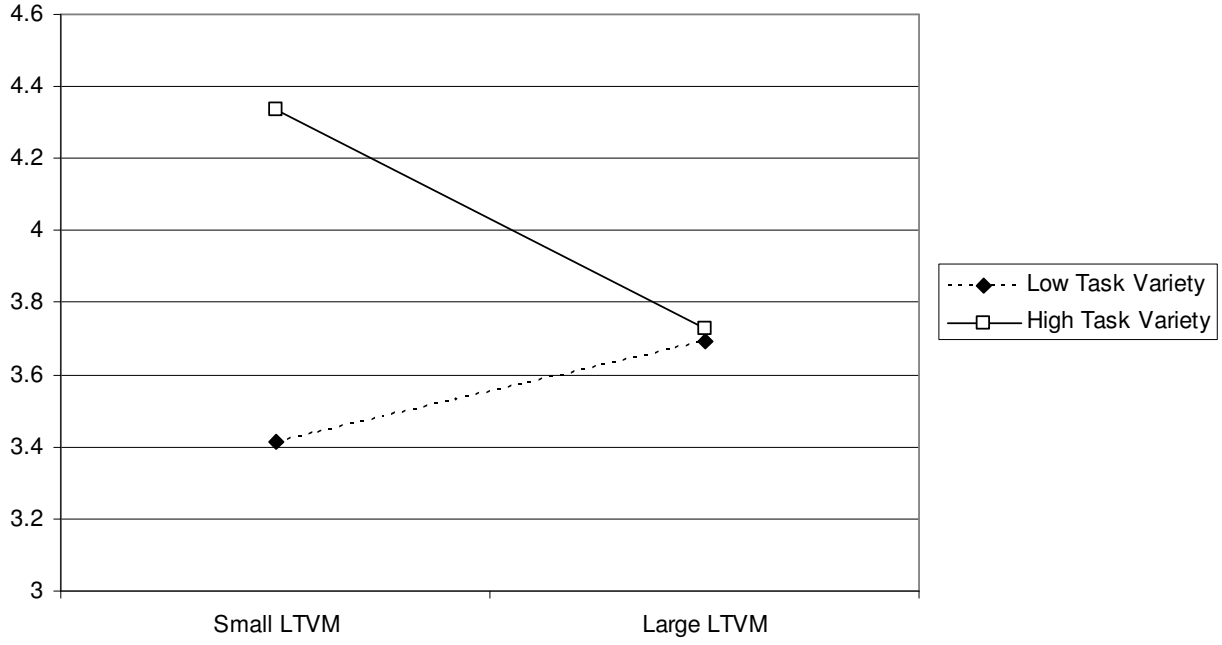


Figure 6.8
Interaction of LTVS and Task Variety; Outcome: of Work in Family Conflict

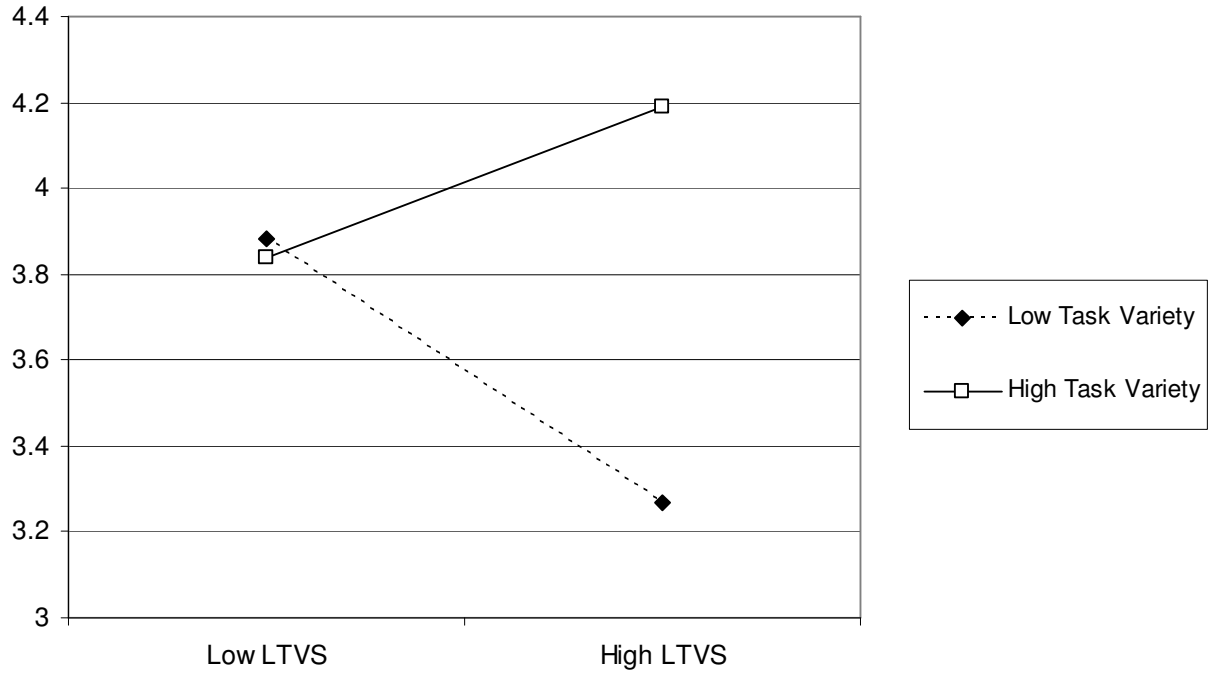


Figure 6.9
Interaction of LTVS and Job Significance; Outcome: Work in Family Conflict

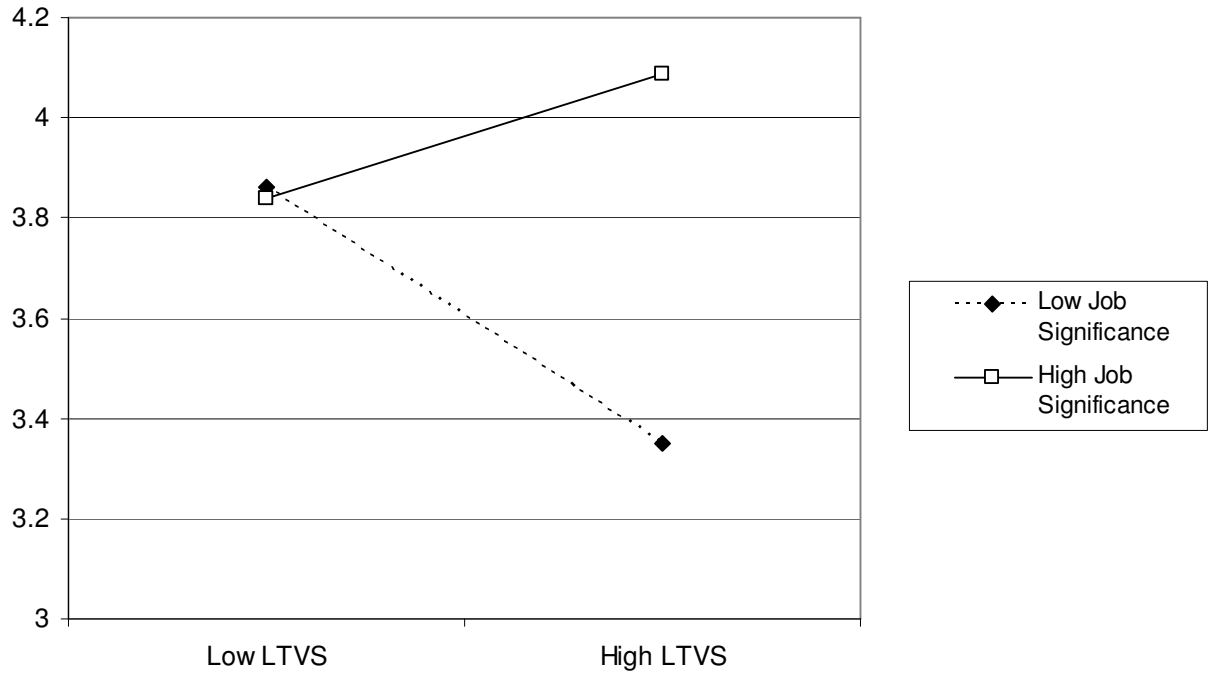


Figure 6.10
Interaction of LTVS and Scheduling Autonomy; Outcome: Work in Family Conflict

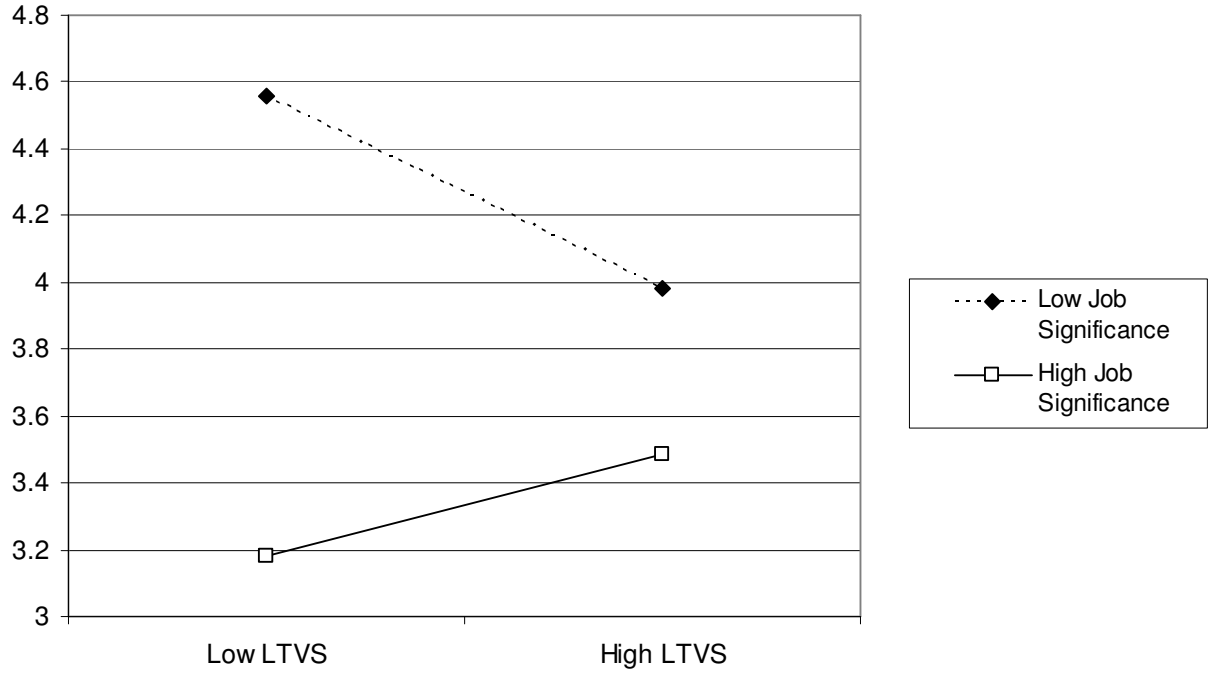


Figure 6.11
Interaction of LTVM and Scheduling Autonomy; Outcome: Job Satisfaction

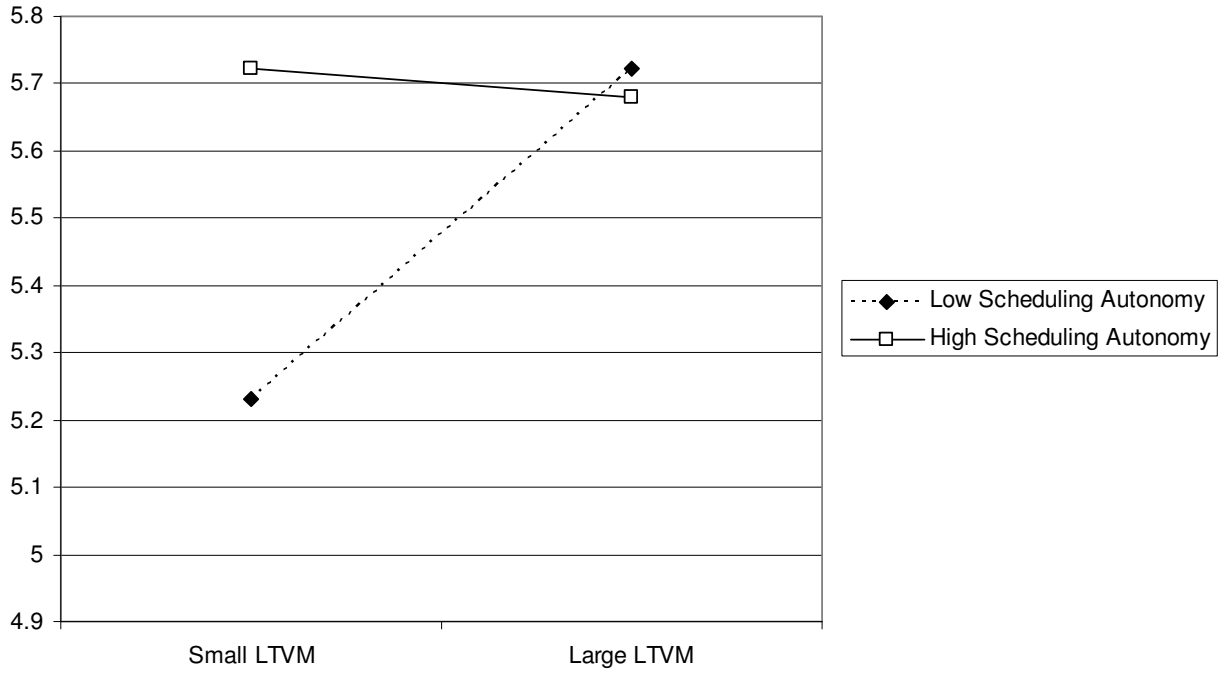


Figure 6.12
Interaction of LTVS and Scheduling Autonomy; Outcome: Job Satisfaction

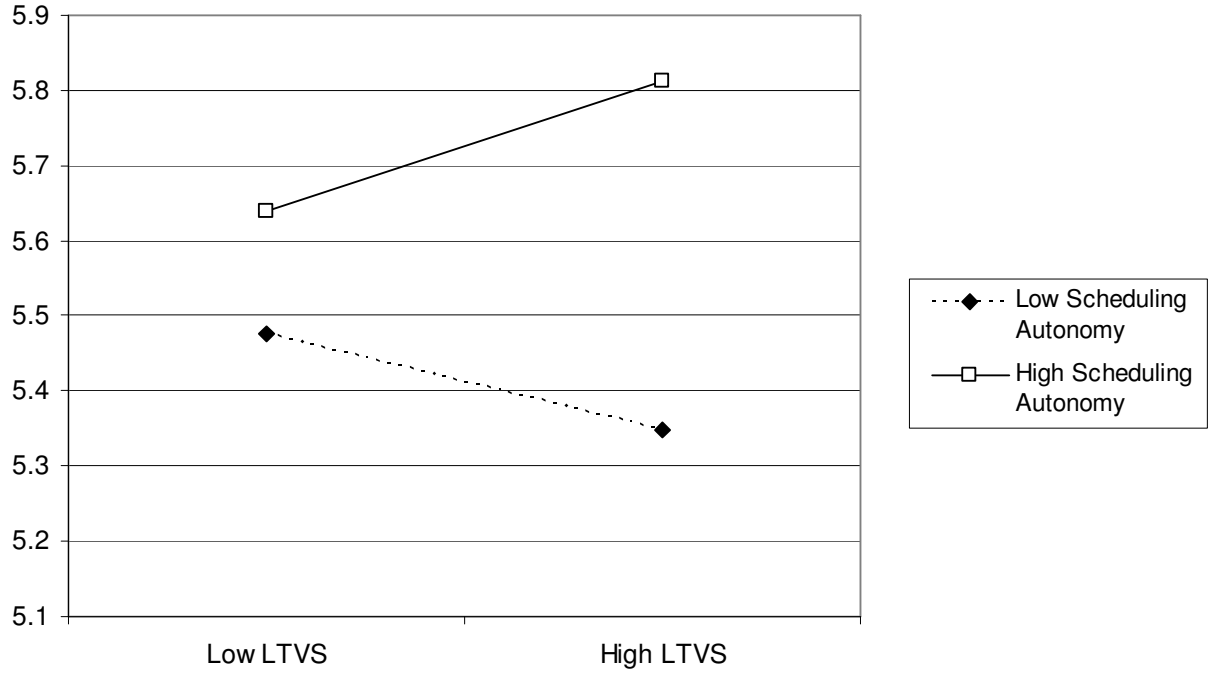


Figure 6.13
Interaction of LTVM and Task Variety; Outcome: Job Involvement

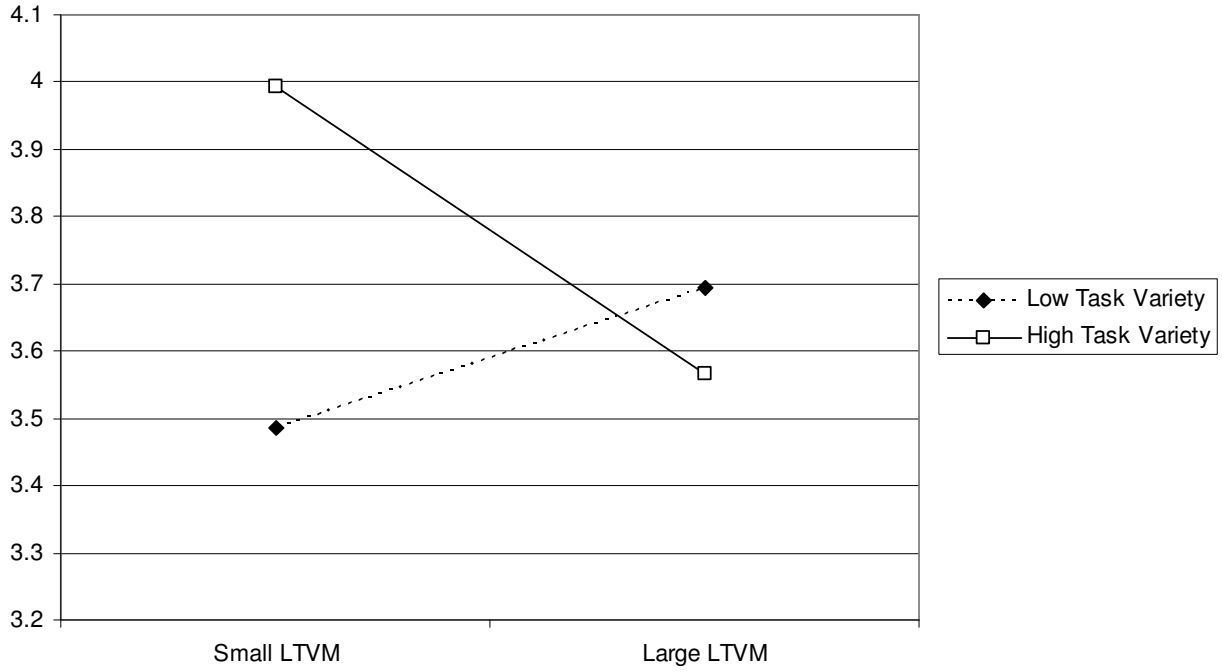


Figure 6.14
Interaction of LTVM and Decision Making Autonomy; Outcome: Job Involvement

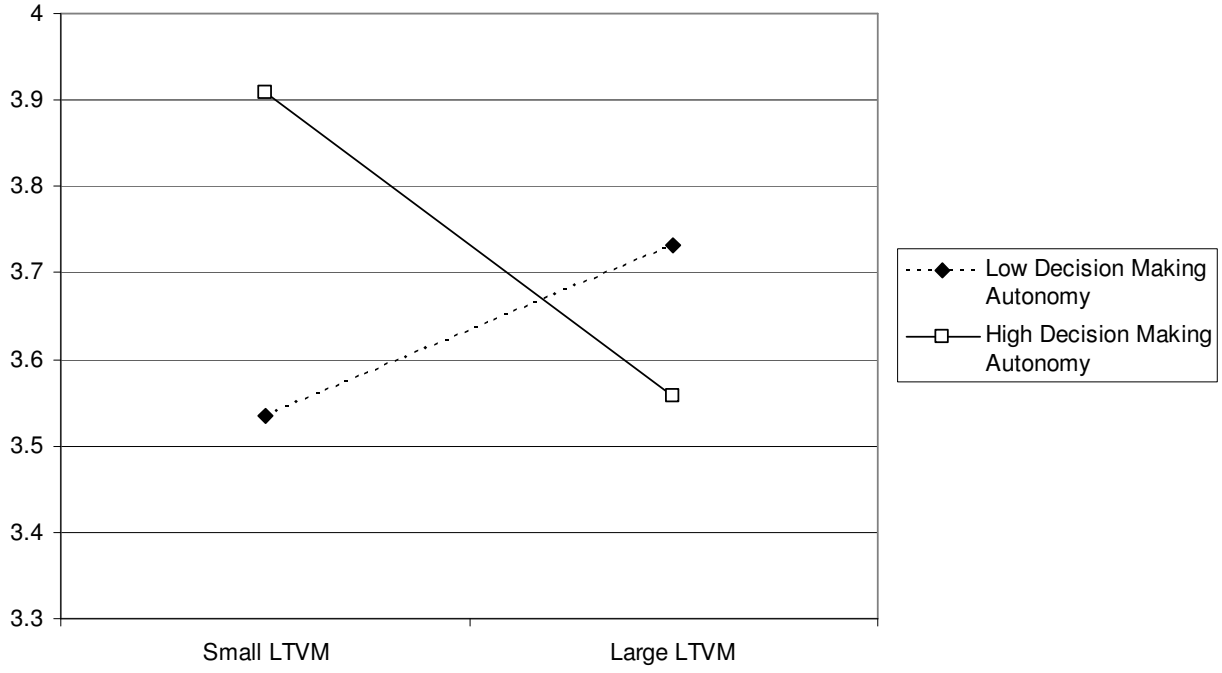


Figure 6.15
Interaction of LTVS and Decision Making Autonomy; Outcome: Job Involvement

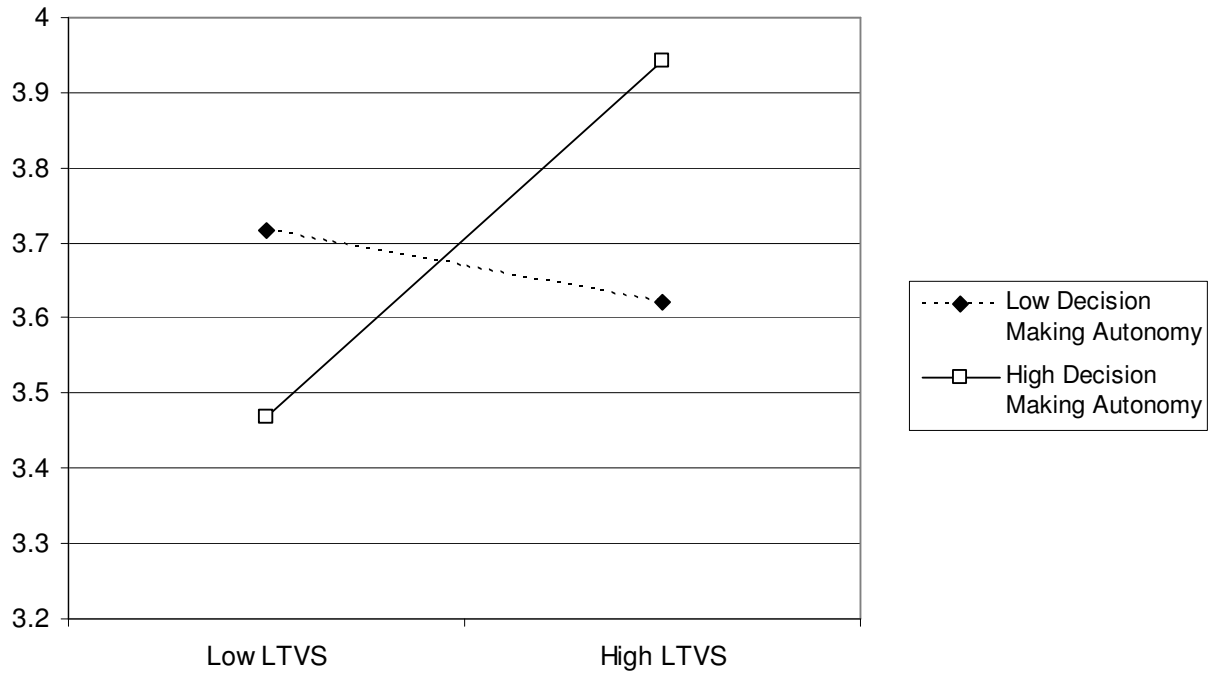


Figure 6.16
Interaction of LTVM and Task Variety; Outcome: Work Involvement

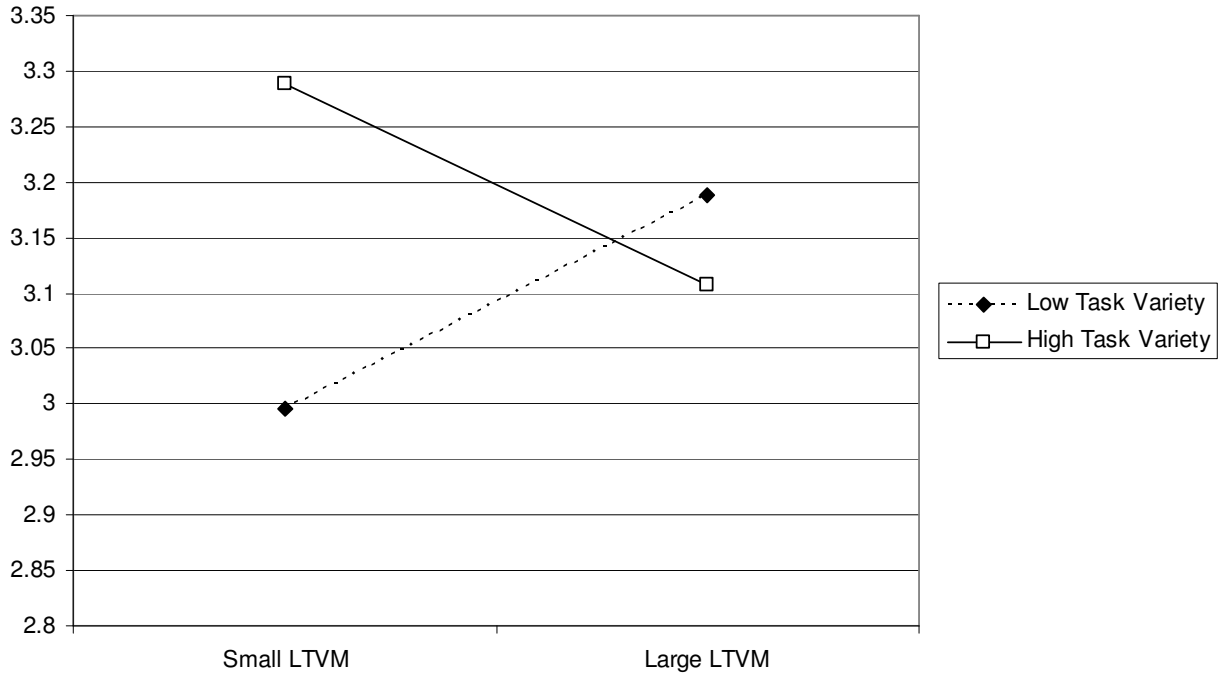


Figure 6.17
Interaction of LTVM and Decision Making Autonomy; Outcome: Work Involvement

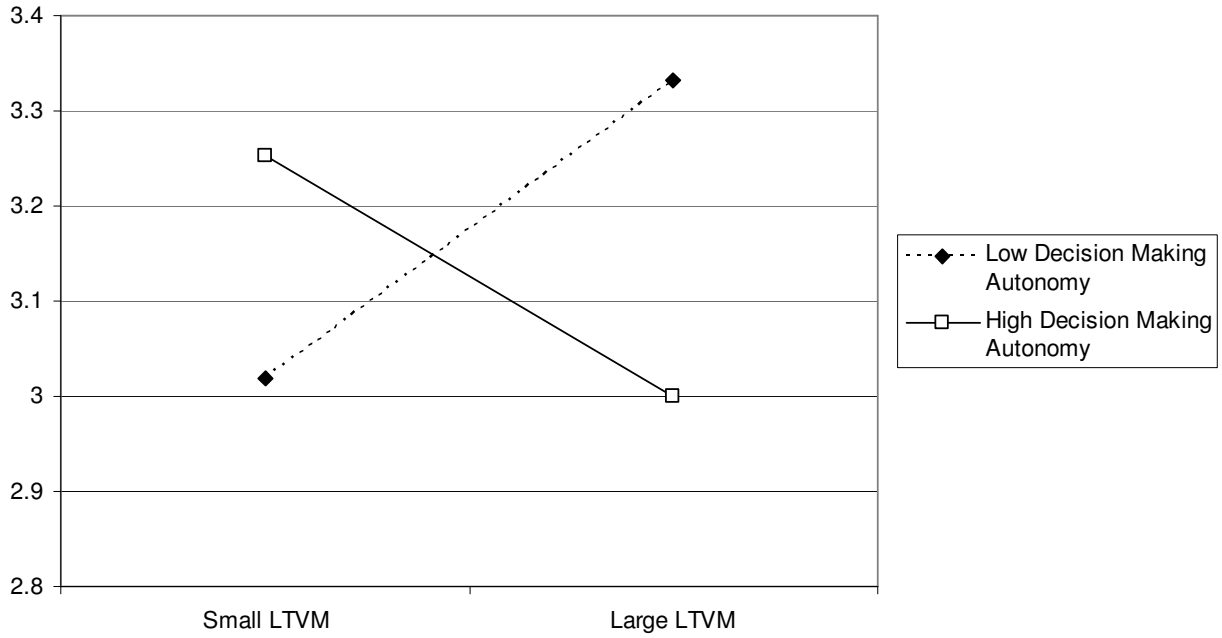
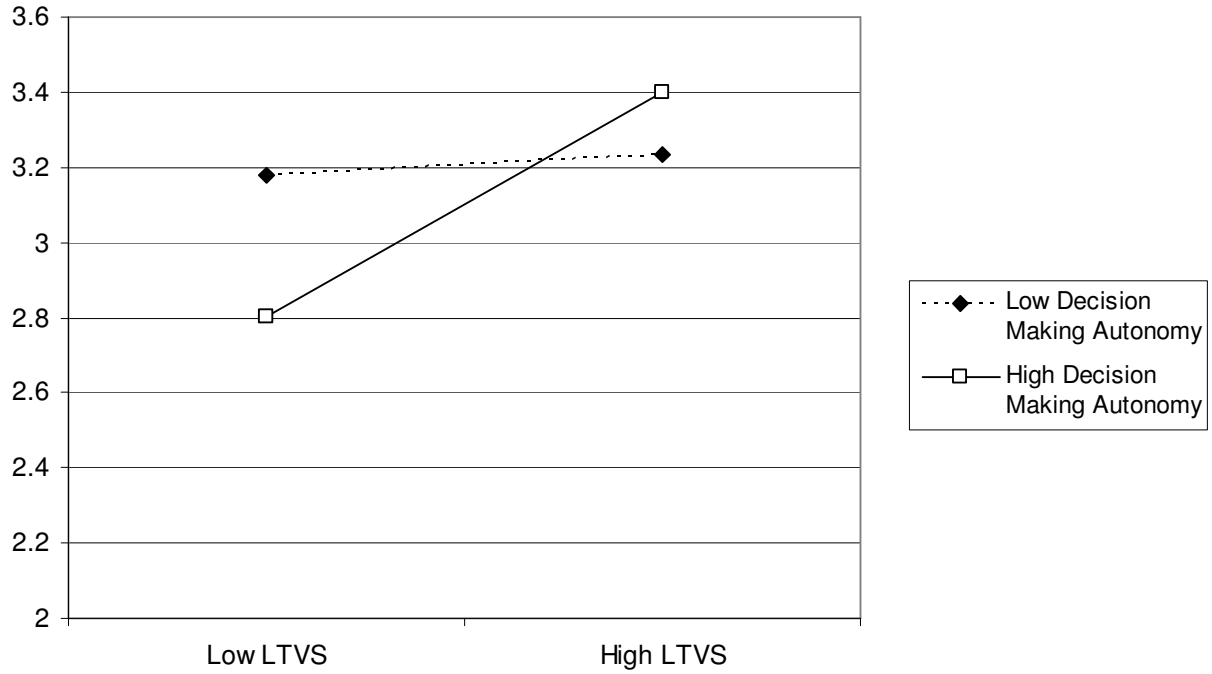


Figure 6.18
Interaction of LTVS and Decision Making Autonomy; Outcome: Work Involvement



CHAPTER 7: PREDICTIVE VALIDITY OF ETVM AND ETVS SCALES (STUDY 6)

The goal of Study 6 was to assess the ability of ETVM and ETVS to predict specific work related outcomes. Following the same procedures as in Study 5, the newly formed scales were included in a questionnaire format with a variety of other measures chosen to assess outcome variables of interest.

Following the central assumptions described in the beginning of this paper, it was assumed that certain behaviors may seem to lack instrumentality to the individual if the future in the organization (i.e., the payback time) is curtailed, which is captured by the concept of a decreasing ETV. Building on the main tenets of VIE theory (Vroom, 1964), it was assumed that an individuals will not be motivated to perform certain behaviors if these behaviors are not instrumental to obtaining valued outcomes. This instrumentality may be curtailed if there is not enough future in the organization during which pay-back could take place. Outcome variables in this study were selected if they seemed likely to unfold over longer periods of time, and therefore would be sensitive to a curtailing of one's future in the organization. For example, showing self-promoting behavior may be instrumental for obtaining a higher order outcome (e.g., a salary increase). This outcome may not manifest if the employee might be retired by the time a salary increase could be awarded, making self-promoting behavior less instrumental. Specifically, the following behaviors were identified as being performed for the purpose of long-term or mid-term gains and were hence assumed to be sensitive to decreases in ETVM and ETVS.

Impression management. Impression management is a process through which individuals intend to shape the image that other people have of them (Turnley & Bolino, 2001). This process has been shown in the past to be connected to strategic goals, such as career success (Judge & Bretz, 1994) and obtaining a job (Ellis, West, Ryan, & DeShon, 2002). Impression management consists of a variety of behaviors (Jones & Pittman, 1982), but for this study two

tactics, *self-promotion* and *exemplification,* were of particular interest as they were likely to pay off over relatively long periods of time. Individuals are self-promoting when they point out their abilities or accomplishments to others. Individuals are exemplifying when they go beyond the norm of expected behavior for the purpose of managing their impression (Bolino & Turnley, 1999). In this regard, this type of behavior is similar to personal initiative, which is also included in this study and is described below. If the future in the organization is curtailed, it may be pointless for an individual to invest extra efforts (e.g., in the course of exemplification). Therefore, a decreasing ETVM should lead to a decrease in impression management, whereas an increase of ETVS should lead to a decrease in impression management.

Hypotheses 7.1a: ETVM is positively related to impression management (exemplification and self-promoting).

Hypothesis 7.1b: ETVS is negatively related to impression management (exemplification and self-promoting).

Personal Initiative. Following a similar logic as for impression management, the benefits of personal initiative may decrease if the future in the organization is curtailed. In fact, some authors regard personal initiative as a form of organizational citizenship behaviors (Bolino & Turnley, 2005; Podsakoff et al., 2000). Organizational citizenship behaviors in general have been associated with the intention to obtain desirable outcomes (Rioux & Penner, 2001). Given that personal initiative requires substantial effort and is also, by definition, mostly discretionary behavior, it is likely that, if outcomes are removed (or unattainable due to retirement), these behaviors will cease.

Hypotheses 7.2a: ETVM is positively related to personal initiative.

Hypothesis 7.2b: ETVS is negatively related personal initiative.

Organizational Citizenship Behaviors. Finally, organizational citizenship behavior is often partially used to obtain rewards (Rioux & Penner, 2001). In a recent study (Joireman, Kamdar, Daniels, & Duell, 2006), it was shown that individuals take the long term effects of their OCB into consideration when engaging in such efforts.

Therefore, it is conceivable that a decrease in ETV is associated with a general decrease in OCBs. However, OCBs that are directed towards peers and individuals (OCBIs; Williams & Anderson, 1991) may not be affected by this logic, as these OCBs may be primarily driven by altruistic motives (which may be maintained as individuals develop emotionally relevant goals). In contrast, a second class of OCBs is intended to primarily benefit the organization (OCBOs). They are more likely to be used as instruments of impression management, as they are more likely to be noticed and appreciated by supervisors. Therefore, although OCBs are performed for a variety of reasons, a decrease in ETV minimizes the pay-back opportunity of OCB. In particular, OCBOs should decrease with a decrease in ETVM, and decrease with an increase in ETVS.

Hypotheses 7.3a: ETVM is positively related to OCBO but unrelated to OCBI.

Hypothesis 7.3b: ETVS is negatively related to OCBO but unrelated to OCBI.

Career Commitment. The development and planning of a career has by definition a future oriented component. Given that career development is "a sequence of stages or positions through which a person progresses over time" (Chartrand & Camp, 1991, p. 2), it is likely that the curtailing of one's future will affect one's career planning. Retirement planning has been before treated as an outcome of career orientation (Dobson & Morrow, 1984). In this study, the remaining time until retirement (captured as ETV) will be used to predict career orientations. Specifically, it is assumed that *retirement planning* (Carson & Bedeian, 1994) (i.e., the specificity with which one plans a career) will decrease with a shrinking ETV. Further, *career resilience*

(i.e., the willingness to maintain a career) should be negatively affected by a shrinking ETV. As the career will come to an end (given a defined ETV), career maintenance will have diminishing returns.

Hypotheses 7.4a: ETVM is positively related to career planning and career maintenance.

Hypothesis 7.4b: ETVS is negatively related to career planning and career maintenance.

Job satisfaction. Hypotheses for job satisfaction and affective organizational commitment were not entirely theory driven. They were primarily included to contrast the current study with others that have examined the effects of age on work outcomes. In these studies (Mc Evoy & Cascio, 1989; Warr, 1994) often an increase in age is linked to an increase in job attitudes, such as job satisfaction and organizational commitment (Hedge et al., 2006). This analysis was conducted to assess whether ETVM and ETVS can predict job attitudes over and beyond age and other, easily derived time horizons, such as TRR and TRL. Therefore, two nondirectional hypotheses were made.

In addition, it was assessed whether the work environment (operationalized as job characteristics) can influence the relations between ETVM and ETVS with job satisfaction and organizational commitment. It was generally assumed that under unfavorable conditions (i.e., low task variety, low autonomy, etc.) ETVM would be more positively related to job satisfaction and organizational commitment than in favorable conditions. Similarly, ETVS was anticipated to be more negatively related to work attitudes under unfavorable work conditions.

Hypothesis 7.5: Job satisfaction is related to ETVM and ETVS.

Hypothesis 7.6: Affective organizational commitment is related to ETVM and ETVS.

Moderators

Previous qualitative data of this dissertation (Study 1), as well as various other authors (AARP, 1999; Ekerdt et al., 1996; Hutchens, 2007), suggest that individuals approach retirement

with potentially very different goals, mindsets, and expectations. Conceptually, retirees may be categorized into four broad groups. First, individuals may believe that they are too young to retire at the current moment (Category 1). Second, individuals may have positive expectations for retirement and they would like to retire as soon as possible, but they cannot due to a variety of reasons (Category 2). Third, individuals may find themselves in a situation where they could retire, but they don't want to do so yet (Category 3). Fourth, individuals may not want to retire but are forced to by external reasons (Category 4). For individuals in these four groups, expectations about retirement vary strongly. For Category 3 and 4 individuals retirement may not be particularly desirable or at least not as desirable as staying on the job. Individuals in Category 2 may perceive retirement as a desirable state that may remove various burdens of daily work life. The "value" of the remaining time on the job may, therefore, differ for individuals in different categories. Specifically, individuals in Category 2 may perceive their employment time vector as something that they need to "get over with", whereas individuals in Categories 3 and 4 may enjoy continued employment.

Therefore, the previous hypotheses will be further qualified, so that the type of retirement situation will be treated as a moderator of the predicted relationships. Specifically, I assume that the magnitude of the predicted relationships is stronger for Category 2 retirement situations

Hypothesis 7.7: The relations described in Hypotheses 7.1 to 7.6 will be stronger in magnitude for individuals in Category 2 (looking forward to retirement) than for individuals in all other categories.

Methods

Participants

Participants were mostly Caucasian (96.9%), on average 47.2 years old (SD=10.6) and expecting to live 36.8 more years. About 59 percent were male. The majority were college

educated with 42 percent having obtained a bachelor's degree, 42 percent having obtained a master's degree, and 15 percent having obtained a professional degree. Participants had on average 25 years of work experience (SD=10.7).

Participants were working in various industries which are presented in Table 7.1. The most frequent occupations were management (17%), business and financial operations (13%), education (12%) and computer and mathematical occupations (9.4%). About 11% of the respondents were self-employed. On average, participants were working 46 hours per week (SD=9.3).

Participants were mostly married or living in partnerships (79%), and were living in households with on average 2.7 members (SD=1.2). Twenty-nine percent of all participants had no children, 16 percent had one, and 52 percent had at least two children. Although the median annual household income was about $140,000, participants' income ranged from $20,000 to over $200,000. Table 7.2 displays the complete distribution.

Participants were again given four short vignettes that summarized possible retirement situations. About 51 percent of the participants agreed that they are too young to consider retirement, while 19 percent agreed that they would like to retire but are still waiting to complete the retirement preparation. Fifteen percent agreed that they could retire any time but that they are continuing to work, and 15 percent agreed that they must retire although they would prefer to continue working. Further, participants reported that their preferred TRR is on average 13.5 years (SD=10.2) and that their anticipated TRR is on average 16 years (SD=10.2). Most commonly, participants planned to stop working altogether when they retire (22%), while 11.9 percent had no current plans and 13.0 percent planned to start working for themselves. The detailed distribution is displayed in Table 7.3

Measures

Predictor Variables

On the predictor side, most measures were identical to the measures used in Study 4. Specifically, ETV and LTV scales were identical, as well as the organization commitment scales and the job satisfaction scale. Again, to minimize overlap the modified FTP scale (FTP mod) was used. The assessment of demographic variables was also identical to Studies 4 and 5. Means, standard deviations and internal consistencies of all measures involved in this study can be found in Table 7.4.

Moderators

Two sets of moderators were used. First, participants were presented four vignettes and were asked to identify in a forced choice format which vignette fit best their retirement situation. The four vignettes were:

Category 1: Retirement is not an option, I am simply too young to retire and I don't want to.

Category 2: I would like to retire very soon but I cannot. I am waiting for certain things to become available. For example, I am waiting for retirement benefits, or health insurance, benefits, or Social Security, or others.

Category 3: I could retire any day now from a financial standpoint – I have all preparations in place (e.g. financial planning). Maybe I will need to give some notification but I it is entirely up to me to go into retirement.

Category 4: I want to continue working and when I retire it will not be entirely up to me. The reasons why I have to retire could be: I am not healthy enough to do my job, or my spouse wants me to stop working, or in my occupation there is a mandatory retirement age.

To enter these vignettes into the data set, the following contrast coding scheme (Cohen & Cohen, 1983) was applied:

Vignette	Short label	Contrast1	Contrast2	Contrast3
1	Too young to retire	-3/4	0	0
2	Want to retire but can't	1/4	-2/3	0
3	Could retire but don't want to	1/4	1/3	1/2
4	Don't want to retire but have to	1/4	1/3	-1/2

Contrast 1 allowed comparing the younger participants, for whom retirement may not be a current consideration, with the rest of the sample. Contrast 2 compared those who want to retire with those who do not want to retire (but not individuals in category 1). Contrast 3 compared individuals who do not have a choice to continue working with those who do.

The second set of moderators was the specific retirement plan, as described in Tables 7.3. The following contrasts were used:

Retirement Plan	**Contrast 1**	**Contrast 2**
stop working altogether	1	5
never stop working	1	-1
not given much thought	-3	0
no current plan	-3	0
reduce work hours (but keep this job)	1	-1
change work	1	-1
work for myself	1	-1
work until my health fails	1	-1

Contrast 1 allows a comparison of those individuals with no specific plans to all those who do have plans (either to stop or to continue). Contrast 2 allows comparing individuals who plan to stop working altogether (those with a distinct and finite end in sight) with those who have a "fuzzy", undefined, or no ending of employment in sight.

Outcome Variables

Personal Initiative. Personal initiative was measured through a scale developed by Bolino and Turnley (2005). See Study 5 for more details.

Organizational Citizenship Behavior. Organizational citizenship behavior (OCB) was assessed through two scales, each with 6 items, measuring OCBs focusing on the individual (OCBI; Williams & Anderson, 1991) and the organization (OCBOs).

Impression management. Two sub scales of Bolino and Turnley's (1999) impression management scale were used. The four-item self-promoting scale consists of item such as "I make people aware of my accomplishments". The four-item exemplification scale consists of items such as "I come to the office at night or on weekends to show that I am dedicated".

Career commitment. Career commitment was measured through two scales by Carson and Bedeian (1994). The four-item career resilience scale assesses the individual's intention to maintain the career even in the face of hardships. An example item is: "Given the problems in this line of work/career field, I sometimes wonder if the personal burden is worth it". The four-item career planning scale assesses the degree to which an individual has made specific career plans. An example item is: "I have created a plan for my development in this line of work/career field".

Results

Descriptive Statistics

In Table 7.4 all means, standard deviations, and correlations can be found. Again, coefficient alphas are on the table's diagonal. A very similar correlation pattern to Study 4 and Study 5 was found.

Predictive Validity

Similar to Studies 4 and 5, tests of the impact of the newly formed variables on various dependent variables were made using a series of hierarchical regression analyses. Included in the first step of each multiple regression were the competing or traditional predictors of the respective outcome, as well as some demographic variables. In steps 2-5, the new measures were entered in separate steps. For all analyses residuals were checked for heteroscedasticity and higher order trends. All regression results are presented in Table 7.6 to 7.9.

Impression management. No significant relations of ETVM or ETVS with exemplification were found; failing to support Hypotheses 7.1a and 7.1b for this outcome (see Table 7.6). Interestingly, LTVM was significantly and negatively related with exemplification (b = -0.14, p <.01), implying that individuals with short LTVs tend to use exemplification strategies. ETVM and ETVS id not relate significantly to self-promoting behavior, failing to support Hypothesis 7.1b. LTVS was a significant positive predictor of self-promoting behavior (b = 0.13, p <.05). The more salient one's LTV is, the *more* self-promoting behaviors individuals use.

Personal Initiative. For personal initiative, neither ETVM nor ETVS were predictive. Therefore, there was not support for Hypotheses 7.2a and 7.2b (see Table 7.7). LTVM was again negatively correlated with personal initiative (b = -.16, p <.01), replicating the previous finding in Study 5.

Organizational Citizenship Behavior. Neither ETVM nor ETVS were significantly related to OCBI (see Table 7.7), which was anticipated. ETVM was not significantly related to OCBI, but a positive relation was found for ETVS and OCBO (b = .13, p < .05). However, no relationship was predicted. Therefore, Hypotheses 7.3a and 7.3b were not supported.

Career Commitment. For career planning and career resilience, neither ETVM nor ETVS had significant predictive power. Hypotheses 7.4a and 7.4b were both not supported (see Table 7.8). Noteworthy is that FTP (b = 0.26, p <.01) was predictive of career planning. FTP was positively related to career planning, suggesting that long time perspectives are associated with more planning activities. LTVM was positively related to career resilience (b = 0.15, p <.01). The shorter the LTV, the less career resilience individuals tended to have.

Job satisfaction. ETVM and ETVS were a significant predictors of job satisfaction (b = 0.09, p <.05 for ETVM; b = - 0.18, p <.05 for ETVS), supporting Hypothesis 7.5. This means that with greater increasing intensity of thinking about the time remaining until one's

retirement and a shrinking ETV, individuals report lower levels of job satisfaction. As mentioned above, ETVM and ETVS may be outcomes of dissatisfaction with the job, because individuals may be more likely to imagine how their life after working may look if they are unhappy in their job. However, in the present model, ETVM and ETVS were predictive of job satisfaction, even with the variable of turnover intention in the model.

Affective Organizational Commitment. Contrary to Hypothesis 7.6, affective organizational commitment was not directly related to ETVM or ETVS.

Test for Moderation. Both sets of contrasts were tested as moderators. However, no interaction term was significant, indicating that the type of retirement does not function as a moderator of the various relations.

Discussion: Study 6

The main effects of the predictors were not significant, failing to support most of the hypotheses of Study 6. Impression management, career salience, personal initiative, and OCBI were not significantly predicted by ETVM and ETVS. In addition, no interactions with the contrasts entered in the regression models were significant. Clearly, the anticipated decrease of instrumentalities of certain behaviors (e.g., OCBs and impression management) may not actually occur. It is conceivable that the pay-back periods for these behaviors are so short that they are instrumental even if retirement is soon to occur. For example, making a positive impression may lead to immediate praise, which could be considered an emotionally meaningful experience. In addition, the nature of the survey was inherently retrospective. That is, individuals were asked how they *typically* behave. Therefore, their self-reported evaluation of their behavior may have been formed by observing themselves in the past. In further studies it may be important to inquire whether individuals are likely to reduce behaviors in the future.

The end of work-life (unlike the end of one's physical life) may not be perceived as a distinct end. Retirement may not be an event of "impending doom", and potentially even of little consequence. Many outcome variables assessed in this study may not only be governed by instrumentality considerations but also driven by stable traits. For example, one's tendency to perform OCBI may be driven by personality factors, such as agreeableness and extraversion. These more enduring impact factors may affect the outcomes in question beyond the moment of retirement.

The absence of predicted relations may also be rooted in the nature of retirement for individuals in this sample. Individuals were asked to describe their retirement plans. Responses indicated that only about 20 percent actually planned to stop working. If individuals assume that work life does not end, but that they will remain active or even employed, it is unlikely that the instrumentality of certain behaviors really decreases. For example, impression management may be highly instrumental to access part time jobs or other bridge employment opportunities. Career planning may be essential to identify and plan for certain bridge employment opportunities. Therefore, the role of ETVM and ETVS in predicting work related outcomes may depend on the nature of retirement that individuals have planned. Retirement is not an end, but rather increasingly a transition state in which many of the mechanisms still apply that also apply during regular employment. In consequence, the further investigation of ETVM and ETVS may need to be paralleled by a more nuanced study of individual differences in retirement plans, as the post retirement activities may dictate the pre-retirement experience of work.

Tables Chapter 7

Table 7.1
Distributions of occupations

Industry	Frequency	Percent
Management Occupations	94	17.0
Business and Financial Operations Occupations	71	12.8
Computer and Mathematical Occupations	52	9.4
Architecture and Engineering Occupations	43	7.8
Life, Physical, and Social Science Occupations	26	4.7
Community and Social Services Occupations	11	2.0
Legal Occupations	16	2.9
Education, Training, and Library Occupations	66	11.9
Arts, Design, Entertainment, Sports, and Media Occupations	12	2.2
Healthcare Practitioners and Technical Occupations	33	6.0
Healthcare Support Occupations	16	2.9
Protective Service Occupations	5	0.9
Food Preparation and Serving Related Occupations	3	0.5
Building and Grounds Cleaning and Maintenance Occupations	3	0.5
Personal Care and Service Occupations	31	5.6
Sales and Related Occupations	14	2.5
Office and Administrative Support Occupations	2	0.4
Farming, Fishing, and Forestry Occupations	6	1.1
Construction and Extraction Occupations	4	0.7
Installation, Maintenance, and Repair Occupations	8	1.5
Production Occupations	6	1.1
Transportation and Material Moving Occupations	16	2.9
Military Specific Occupations	15	2.7

Table 7.2
Income distribution

Income	Frequency	Percent	Cumulative Percent
Less than $20,000	0	0	0.0
$20,001-$40,000	3	0.55	0.6
$40,001-$60,000	29	5.36	5.9
$60,001-$80,000	44	8.13	14.1
$80,001-$100,000	56	10.35	24.4
$100,001-$120,000	73	13.49	37.9
$120,001-$140,000	59	10.91	48.8
$140,001-$160,000	65	12.01	60.8
$160,001-$180,000	42	7.76	68.6
$180,001-$200,000	32	5.91	74.5
more than $200,000	138	25.51	100.0

Table 7.3
Distribution of retirement plans

Retirement Plan	**Frequency**	**Percent**
stop working altogether	115	21.7
never stop working	38	7.2
not given much thought	51	9.6
no current plan	63	11.9
reduce work hours (but keep this job)	49	9.3
change work	102	19.3
work for myself	69	13.0
work until my health fails	43	8.1

Table 7.4
Means, standard deviations, and bivariate correlations (Continued on next page)

	Mean	Std Dev	LTVM	LTVS	ETVM	ETVS	Age	Sex	TRR	Health	FTP
LTVM	4.45	1.34	*.86*								
LTVS	3.86	1.37	-.45	*.88*							
ETVM	5.10	1.52	.37	-.17	*.92*						
ETVS	2.76	1.33	-.31	.28	-.69	*.87*					
Age	47.25	10.64	-.25	.11	-.60	.31	*n.a.*				
Sex	1.40	0.49	.06	-.05	.17	-.10	-.19	*n.a.*			
TRR	16.34	10.19	.23	-.10	.67	-.46	-.76	.14	*n.a.*		
Health	4.06	0.86	.31	-.23	.13	-.14	-.10	.02	.05	*n.a.*	
FTPmod	4.78	1.17	.53	-.26	.35	-.23	-.36	.07	.28	.30	*.91*
Job Satisfaction	5.56	1.12	.12	-.05	.03	-.22	.25	-.01	-.15	.10	.15
Aff. Org, Commitment	4.69	1.43	.01	.03	.04	-.15	.13	-.02	-.07	.06	.03
Turnover Intention	2.45	1.49	-.04	.02	-.20	.31	-.05	-.05	-.10	-.09	.00
Stress	4.31	1.56	-.06	.03	.10	.07	-.20	.05	.07	-.03	.11
OCBO	5.33	0.58	.07	-.03	-.05	.01	.12	.01	-.13	.20	.11
OCBI	5.66	0.75	.04	.04	.06	-.02	-.04	.13	.01	.13	.19
Personal initiative	4.50	1.38	-.06	.04	.00	-.05	.04	-.10	-.07	.08	.15
Career Planning	4.96	1.30	.14	-.03	.05	-.08	.03	.01	-.06	.16	.32
Career Resilience	4.93	1.42	.21	-.12	-.02	-.11	.22	-.05	-.10	.17	.13
Self-Promotion	4.88	1.17	.06	.06	.10	-.07	-.02	.08	.03	.06	.21
Exemplification	2.61	1.16	-.09	.08	.03	.05	-.15	.06	.17	-.05	-.02

Table 7.4 (Continued)

	Job Sat.	Aff. Org. Com.	Turnover Intentions	Stress	OCBO	OCBI	Personal Initiative	Career Planning	Career Resilience	Self-Promo.	Exempl.
Job Satisfaction	*.91*										
Aff. Org, Commitment	.59	*.80*									
Turnover Intention	-.54	-.58	*.89*								
Stress	-.18	.01	.13	*.87*							
OCBO	.32	.24	-.19	.06	*.67*						
OCBI	.24	.25	-.10	.10	.39	*.86*					
Personal Initiative	.21	.27	-.04	.33	.18	.16	*.90*				
Career Planning	.39	.25	-.19	.05	.28	.29	.25	*.84*			
Career Resilience	.50	.26	-.31	-.43	.19	.11	-.11	.23	*.89*		
Self-Promo.	.16	.18	-.15	.12	.08	.15	.14	.24	.03	*.88*	
Exemplification	-.24	-.08	.09	.08	-.24	-.10	.08	-.14	-.25	.21	*.80*

Note: All correlations above .12 are significant at p<.01; correlations above .09 are significant at p<.05. Self-Promo = Self-Promotion, Numbers on diagonal in italics display coefficient alphas of respective scale.

Table 7.6
Regression Results (Hypotheses 7.1a/b)

	Exemplification					Self-Promotion				
Variable Entered	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**
Age	-0.01	0.01	-.11			0.01	0.01	0.10		
Sex	0.08	0.10	.03			0.17	0.10	0.07		
FTP	-0.02	0.05	-.02			0.25	0.05	0.25**		
Aff. Org. Commitment	0.09	0.04	.11			0.10	0.04	0.12*		
Job Satisfaction	-0.30	0.06	-.28**			0.05	0.06	0.05		
Health	-0.05	0.06	-.04			-0.07	0.06	-0.05		
Contrast 1	0.18	0.19	.04			-0.18	0.19	-0.04		
Contrast 2	-0.04	0.13	-.02			-0.07	0.13	-0.03		
Contrast 3	0.05	0.16	.01	.081	.081	0.02	0.16	0.01	.086	.09
			Step 2					**Step 2**		
LTVM	-0.13	0.05	-.14**	.096	.015	-0.06	0.05	-.07	.089	.003
			Step 3					**Step 3**		
LTVS	0.07	0.04	.08	.105	.006	0.11	0.04	0.13**	.103	.014
			Step 4					**Step 4**		
ETVM	-0.00	0.05	.01	.105	.000	0.08	0.05	0.10	.107	.000
			Step 5					**Step 5**		
ETVS	0.02	0.06	0.03	.105	.000	0.02	0.06	0.01	.108	.001

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

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Table 7.7
Regression Results (Hypotheses 7.2 a/b, 7.3 a/b))

	Personal Initiative					OCBO					OCBI				
	β	**Std. Error**	**b**	**R^2**	**ΔR^2**	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**
Age	0.00	0.01	.03			0.01	0.00	.14			0.00	0.00	.03		
Sex	-0.26	0.12	-.09			0.06	0.06	.05			0.19	0.06	.13**		
FTP	0.20	0.06	.17**			0.05	0.03	.09			0.09	0.03	.14**		
OCA	0.18	0.05	.19**			0.03	0.02	.06			0.09	0.03	.17**		
Job Satisfaction	0.01	0.07	.01			0.13	0.03	.22**			0.07	0.04	.11		
Health	-0.02	0.07	-.01			0.09	0.03	.11**			0.05	0.04	.06		
Contrast 1	0.03	0.22	.01			0.08	0.10	.03			0.17	0.12	.06		
Contrast 2	0.15	0.15	.05			-0.08	0.07	-.06			-0.09	0.08	-.06		
Contrast 3	0.40	0.18	.10	.097	.097	-0.11	0.08	-.06	.131	.131	0.05	0.10	.02	.135	.135
			Step 2					**Step 2**					**Step 2**		
LTVM	-0.18	0.05	-.16**	.118	.021	-0.13	0.03	-.03	.132	.000	-0.05	0.03	-.10*	.142	.006
			Step 3					**Step 3**					**Step 3**		
LTVS	0.02	0.05	.02	.118	.000	-0.01	0.02	-0.02	.132	.000	0.05	0.03	0.09	.148	.006
			Step 4					**Step 4**					**Step 4**		
ETVM	0.07	0.06	.07	.120	.001	-0.03	0.03	-0.06	.134	.002	-0.01	0.03	-0.02	.148	.000
			Step 5					**Step 5**					**Step 5**		
ETVS	-0.04	0.07	-.04	.121	.001	0.05	0.03	0.10	.138	.004	0.07	0.04	0.13*	.155	.007
C4etvm						-0.134	.05	-.571	.150	.012					
C4etvs not sig!										.					

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Table 7.8

Regression Results (Hypotheses 7.4 a/b)

	Career Planning					Career Resilience				
	β	**Std. Error**	**b**	**R^2**	**ΔR^2**	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**
Age	0.01	0.01	.09			0.02	0.01	0.14		
Sex	0.00	0.11	.00			-0.06	0.11	-0.02		
FTP	0.29	0.05	.26**			0.10	0.06	0.08		
Aff. Org. Commitment	0.03	0.05	.03			-0.02	0.05	-0.02		
Job Satisfaction	0.35	0.06	.29**			0.56	0.07	0.43		
Health	0.06	0.06	.04			0.17	0.07	0.10		
Contrast 1	0.00	0.19	.00			0.29	0.20	0.06		
Contrast 2	-0.17	0.13	-.07			-0.07	0.14	-0.03		
Contrast 3	0.37	0.16	.10	.234	.234	0.15	0.17	0.04	.275	.275
			Step 2					**Step 2**		
LTVM	-0.05	0.05	-0.07	.237	.003	0.16	0.05	0.15**	.291	.016
			Step 3					**Step 3**		
LTVS	0.06	0.04	0.06	.240	.003	-0.01	0.04	-0.01	.291	.000
			Step 4					**Step 4**		
ETVM	-0.04	0.05	-0.05	.243	.001	0.02	0.05	0.02	.291	.000
			Step 5					**Step 5**		
ETVS	0.07	0.06	0.07	0.243	.002	-0.03	0.06	-0.03	.291	.001

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Table 7.9
Regression Results (Hypothesis 7.5 and 7.6)

	Job Satisfaction					Affective Organizational Commitment				
	β	**Std. Error**	**b**	**R^2**	**ΔR^2**	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**
Age	0.04	0.00	.35**			Age	-0.01	0.01	-.08		
Sex	0.08	0.07	.04			Sex	-0.06	0.10	-.02		
FTP	0.20	0.04	.22**			FTP	-0.12	0.05	-.10		
Aff. Org. Com.	0.41	0.03	.53**			Job Satisfaction	0.80	0.05	.62**		
Turnover Int.	0.04	0.04	.03			Turnover Int.	0.00	0.06	.00		
Health	0.09	0.13	.02			Health	-0.18	0.19	-.03		
Contrast 1	-0.30	0.09	-.14			Contrast 1	0.10	0.13	.04		
Contrast 2	0.25	0.11	.08**			Contrast 2	0.21	0.15	.05		
Contrast 3	0.04	0.00	.35	.459	.459	Contrast 3	-0.01	0.01	-.08	.363	.363
		Step 2: LTVM						**Step 2: LTVM**			
	0.03	0.03	.04	.460	.001		-0.04	0.05	-0.03	.364	.001
		Step 3: LTVS						**Step 3: LTVS**			
	0.01	0.03	.01	.460	.000		0.01	0.04	0.01	.364	.000
		Step 4: ETVM						**Step 4: ETVM**			
	0.07	0.04	.09**	.464	.004		0.06	0.05	0.07	.366	.002
		Step 5: ETVS						**Step 5: ETVS**			
	-0.15	0.04	-.18**	.478	.015		-0.01	0.06	-0.02	.366	.000

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

CHAPTER 8: TEST OF ALTERNATIVE MODERATORS (STUDY 7)

Study 7 was performed to gain additional insight into what organizational features may be moderating the relations among LTV magnitude and salience, ETV magnitude and salience, with a variety of outcome variables. Study 7 used outcome variables previously included in Studies 5 and 6 but introduced a new set of moderators. In this study, perceived organization support (POS), perceived supervisor support (PSS), and charismatic leadership were measured. The goal was to assess whether organizations could intervene and mitigate negative effects of shrinking LTVs and ETVs through specific treatments of the employee, such as supportive or charismatic leadership. Whereas job characteristics may not be malleable in all circumstances, organizations may be better able to change the atmosphere of support and the type of leadership that they provide.

Outcome variables were work and job involvement, job performance and satisfaction, and personal initiative. Instead of organizing the rest of the introduction by outcomes, as practiced in the previous studies, I will discuss each moderator and delineate how they may influence the relationship between predictors and specific outcome variables.

Perceived Organizational & Supervisor Support

Moderation of LTVM & LTVS effects. The central assumption of perceived organizational support (POS) is that "the caring, approval, and respect connoted by POS should fulfill socioemotional needs, leading workers to incorporate organizational membership and role status into their social identity." (p. 699; Rhoades & Eisenberger, 2002). Therefore, the shift in values driven by decreases in LTV may be satisfied by an organizational environment that appreciates, cares for, and respects the employees. In this case, a potentially positive relationship between LTVM and work centrality measures (work and job involvement) should be less

positive. The proposed negative relationship between LTVS and work centrality measures should be less negative for individuals in high POS organizations because their needs to cultivate meaningful social relationships will be satisfied within the organization. The same assumptions made for POS were also made for perceived supervisor support (Shanock & Eisenberger, 2006). PSS is similarly defined as POS, but the supervisor instead of the organization is used as a referent. PSS was included to cover a broader bandwidth of potential interaction partners.

Hypothesis 8.1a: Perceived Organization Support [Perceived Supervisor Support] moderates the relation between LTVM and job [work] involvement so that the relation for individuals in organizations with high POS [PSS] is less positive than for individuals in organizations with low POS [PSS].

Hypothesis 8.1b: Perceived Organization Support [Perceived Supervisor Support] moderates the relation between LTVS and job [work] involvement so that the relation for individuals in organizations with high POS [PSS] is less negative than for individuals in organizations with low POS [PSS].

Similarly, for individuals in high POS organizations, the relationship between LTVM and LTVS and *job performance measures* (personal initiative and job performance) should be less positive for LTVM and less negative for LTVS.

Hypothesis 8.2a: Perceived Organization Support [Perceived Supervisor Support] moderates the relation between LTVM and job performance [personal initiative] so that the relation for individuals in organizations with high POS [PSS] is less positive than for individuals in organizations with low POS [PSS].

Hypothesis 8.2b: Perceived Organization Support[Perceived Supervisor Support] moderates the relation between LTVS and job performance [personal initiative] so that the relation for individuals in organizations with high POS [PSS] is less negative than for individuals in organizations with low POS [PSS].

Moderation of ETVM & ETVS effects. Perceived organizational support has been associated with increased employee retention (Eisenberger, Cummings, Armeli, & Lynch, 1997), job performance (Erdogan & Enders, 2007), organizational commitment (Rhoades, Eisenberger, & Armeli, 2001), and safety performance (Hofmann & Morgeson, 1999). The central mechanism,

which is based on social exchange theory (Rhoades & Eisenberger, 2002), is assumed to be a norm of reciprocity that employees develop upon being treated with care and regard for their well-being. For example, Erdogan and Enders (2007) showed that POS moderated the relation between Leader Member Exchange and satisfaction and performance. Individuals with high POS reciprocated to the organization when in high quality LMX relationships with their supervisors. A similar notion is made in this study. If individuals are in high POS organizations, a decrease in ETV will not lead to a decrease in job performance and organizational citizenship behavior. These individuals are likely to feel obliged to contribute to the organization, despite the fact that they potentially may not receive rewards for their actions.

Hypothesis 8.3a: Perceived Organization Support [Perceived Supervisor Support] moderates the relation between ETVM and organizational citizenship behavior so that the relation for individuals in organizations with high POS [PSS] is less positive than for individuals in organizations with low POS [PSS].

Hypothesis 8.3b: Perceived Organization Support [Perceived Supervisor Support] moderates the relation between ETVS and organizational citizenship behavior so that the relation for individuals in organizations with high POS [PSS] is less negative than for individuals in organizations with low POS [PSS].

In addition, POS and PSS were assumed to moderate the relationship between ETVM, ETVS and job satisfaction and organizational commitment. Both POS and PSS have been previously associated with satisfaction and commitment. In this study it was assumed that potentially negative effects of ETVM and ETVS will be mitigated by a supportive work environment.

Hypothesis 8.4a: Perceived Organization Support [Perceived Supervisor Support] moderates the relation between ETVM and job satisfaction [affective organizational commitment] so that the relation for individuals in organizations with high POS [PSS] is less positive than for individuals in organizations with low POS [PSS].

Hypothesis 8.4b: Perceived Organization Support [Perceived Supervisor Support] moderates the relation between ETVS and job satisfaction [affective organizational commitment] so that the relation for individuals in organizations with high POS [PSS] is less negative than for individuals in organizations with low POS [PSS].

Charismatic & Transformational Leadership.

Moderation of ETVM & ETVS effects. Transformational leadership (Avolio & Bass, 1995; Bass & Avolio, 1995) is characterized by leaders formulating a vision, inspiring followers to transcend their own personal goals in favor of team or organization goals. This central function of transformational leadership, employees' transcendence of personal goals for organizational goals, is assumed to moderate the relation between ETVM and ETVS. Specifically, individuals may decrease job performance and organizational citizenship behavior, because it may not be instrumental to obtain rewards with long-term payback. However, individuals lead by a transformational leader may not follow this purely transactional rationale, and may maintain OCB and high job performance. In such situations the individual may not intend to benefit him/herself but the greater good of the entity for which he/she is working.

Hypothesis 8.5a: Transformational leadership moderates the relation between ETVM and organizational citizenship behavior [job performance] so that the relation for individuals with transformational leaders is less positive than for individuals with non-transformational leaders.

Hypothesis 8.5b: Transformational leadership moderates the relation between ETVS and organizational citizenship behavior [job performance] so that the relation for individuals with transformational leaders is less negative than for individuals with non-transformational leaders.

Methods

Participants

Participants were mostly Caucasian (96.1%), on average 48.7 years old (SD=10.2) and expecting to live 35.7 more years. About 64 percent were male. The majority were college educated with 38 percent having obtained a bachelor's degree, 38% percent having obtained a master's degree, and 23 percent having obtained a professional degree. Participants had on

average 25 years of work experience (SD=10.4). Participants were working in various industries which are presented in Table 8.1. The most frequent occupations were education (16%), management occupations (14%), and business and financial operations (11%). About 12% of the respondents were self-employed. On average, participants were working 47 hours per week (SD=9.6).

Participants were mostly married or living in partnerships (78%), and were living in households with on average 2.6 members (SD=1.2). Twenty-nine percent of all participants had no children, 18 percent had one, and 52 percent had at least two children. Although the median annual household income was at about $120,000, participants' income ranged from $20,000 to over $200,000. Table 8.2 displays the complete distribution.

Participants were again given four short vignettes that summarized possible retirement situations. About 46 percent of the participants agreed that they are too young to consider retirement, while 22 percent agreed that they would like to retire but are still waiting to complete the retirement preparation. Seventeen percent agreed that they could retire any time but that they are continuing to work and 15 percent agreed that they must retire although they would prefer to continue working. Further, participants reported that their preferred TRR is on average 12 years (SD=9.7) and that their anticipated TRR is on average 15 years (SD=9.6). Most commonly, participants planned to stop working altogether when they retire (22%), while 13 percent had no current retirement plans and 17 percent planned to start working for themselves. The detailed distribution is displayed in Table 6.3.

Measures

In Study 7 the same LTV and ETV scales as in Studies 4-6 were used. Further, the scales for affective organizational commitment, job satisfaction, turnover intentions, stress, job

performance, job involvement, work involvement, and personal initiative were identical to Study 5. Scales for OCBO and OCBI were previously used in Study 6.

Perceived organizational support was assessed through a short 6-item version (Eisenberger et al., 1997) of the original instrument (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Following Shanock and Eisenberger (2006), perceived supervisor support was assessed using a modified version of the POS scale, in which the term "organization" was replaced with "supervisor". The charismatic leadership questionnaire (Den Hartog, De Hoogh, & Keegan, 2007) was used to measure charismatic leadership. All coefficient alphas can be found in Table 8.4.

Results

Descriptive Statistics

In Table 8.4 all means, standard deviations, and correlations can be found. Again, coefficient alphas are on the table's diagonal.

Predictive Validity

Similar to Studies 4, 5, and 6, tests of the impact of the newly formed variables on various dependent variables were made using a series of hierarchical regression analyses. Included in the first step of each multiple regression were competing or traditional predictors of the respective outcome, as well as some demographic variables and the contrasts. In steps 2-5, the new measures were entered in separate steps. For all analyses, residuals were checked for heteroscedasticity and higher order trends. All regression results are presented in Table 8.6-8.8

Job & Work Involvement. The interaction terms of LTVM and LTVS did not explain any variance of job and work involvement. As a result, Hypotheses 8.1a and 8.1b were not supported. However, unlike Study 5 (where the same outcomes were investigated) all of the main effects

were significant. LTVM was significantly negatively related to job and work involvement (b = -0.14, p < .05), and LTVS was significantly positively related (b = 0.21, p < .01). These findings indicate that individuals with smaller LTVM have higher work and job involvement than individuals with high LTVM. Individuals with high LTVS have higher levels of job and work involvement than individuals with low LTVS.

Job Performance & Personal Initiative. Hypotheses 8.2a and 8.2b stated that POS and PSS should moderate the relation between LTVM, LTVS and two job performance measures (job performance and personal initiative). However, this was not the case and Hypotheses 8.2a and 8.2b were not supported. In addition, neither the LTVM nor the LTVS main effect was significant and neither age, TRL, nor FTP contributed significantly to the model.

Hypotheses 8.5a and 8.5b predicted that charismatic leadership would moderate the relations of ETVM and ETVS with job performance and personal initiative. However, none of the interaction terms were significant, failing to support Hypotheses 8.5a and 8.5b for these specific outcomes.

Organizational Citizenship Behavior. For organizational citizenship behavior (OCBO and OCBI) no interactions reached conventional levels of significance, failing to provide support for Hypotheses 8.3a and 8.3b.

In addition, charismatic leadership was anticipated to moderate the relation of ETVM and ETVS with OCBO and OCBI. However, none of the interaction terms significantly contributed to the model. Hypotheses 8.5a and 8.5b for organizational citizenship behavior were not supported.

Job Satisfaction & Organizational Commitment. POS and PSS did not moderate the relations among LTVM and LTVS, and job satisfaction and affective organizational commitment. Hypotheses 8.4a and 8.4b were not supported. Paralleling findings in Study 6, ETVS was negatively related to job performance (b=-0.11, p<.05). Contrary to expectation, ETVM was also

negatively related to job performance (b=-0.12, p <.05). Future time perspective was also significantly related to performance (b- 0.20, p<.01). For organizational commitment, ETVM was significantly related (b=- 0.16, p<.01).

Discussion: Study 7

The results of Study 7 clearly indicate that perceived organizational and supervisor support do not play a role in the moderation of LTVM and LTVS effects. This complete absence of effects is surprising, given the various interactions found among job characteristics in Study 5. Study 5 results indicated that the work environment clearly influenced how individuals reacted to the decreases of LTVM and increases of LTVS. The reasons for the current absence of interaction effects among organizational and supervisor support and LTVM and LTVS are unclear. A critical difference between job characteristics and supervisor and organizational support may be that the former characterize the nature of work itself, whereas the latter characterize the nature of the relationship with the organization. The implication may be that the job itself may serve as a source of meaning, but the individual's interactions with organization and supervisor do not.

In future studies, ideally job characteristics *and* perceived organizational and supervisor support should be included in the same study. It seems possible that job characteristics and POS/PSS may be interacting. It seems likely that being appreciated and taken care of by the organization may influence the effects of job characteristics on the LTVM/LTVS-outcome relation.

Similar to the disappointing role of POS and PSS, transformational leadership was not found to influence the effects of ETVM and ETVS on outcomes such as OCBs and job performance. Again, the reasons for the absence of predicted relations are unclear. The absence of ETVM and ETVS main effects make it unclear whether individuals decrease job performance

and OCBs to any extent when the ETV is curtailed. Possibly, the hypothesized losses in instrumentality of these behaviors to obtain second level outcomes do not exist. It is conceivable that employees do not perceive instrumentalities to be decreasing, and that they contribute at a particular level regardless of certain long-term outcomes.

Tables Chapter 8

Table 8.1
Distributions of occupations

Industry	**Frequency**	**Percent**
Management Occupations	66	14.07
Business and Financial Operations Occupations	52	11.09
Computer and Mathematical Occupations	34	7.25
Architecture and Engineering Occupations	49	10.45
Life, Physical, and Social Science Occupations	31	6.61
Community and Social Services Occupations	4	0.85
Legal Occupations	17	3.62
Education, Training, and Library Occupations	74	15.78
Arts, Design, Entertainment, Sports, and Media Occupations	12	2.56
Healthcare Practitioners and Technical Occupations	30	6.4
Healthcare Support Occupations	8	1.71
Protective Service Occupations	2	0.43
Food Preparation and Serving Related Occupations	3	0.64
Building and Grounds Cleaning and Maintenance Occupations	0	0
Personal Care and Service Occupations	0	0
Sales and Related Occupations	23	4.9
Office and Administrative Support Occupations	15	3.2
Farming, Fishing, and Forestry Occupations	4	0.85
Construction and Extraction Occupations	6	1.28
Installation, Maintenance, and Repair Occupations	1	0.21
Production Occupations	8	1.71
Transportation and Material Moving Occupations	6	1.28
Military Specific Occupations	8	1.71

Table 8.2
Income distribution

Income	Frequency	Percent	Cumulative Percent
Less than $20,000	2	0.44	0.44
$20,001-$40,000	6	1.31	1.74
$40,001-$60,000	29	6.32	8.06
$60,001-$80,000	41	8.93	16.99
$80,001-$100,000	56	12.2	29.19
$100,001-$120,000	69	15.03	44.23
$120,001-$140,000	38	8.28	52.51
$140,001-$160,000	51	11.11	63.62
$160,001-$180,000	28	6.1	69.72
$180,001-$200,000	22	4.79	74.51
more than $200,000	117	25.49	100

Table 8.3
Distribution of retirement plans

Retirement Plan	Frequency	Percent
stop working altogether	95	21.79
never stop working	20	4.59
not given much thought	38	8.72
no current plan	58	13.3
reduce work hours (but keep this job)	52	11.93
change work	69	15.83
work for myself	72	16.51
work until my health fails	32	7.34

Table 8.4
Means, standard deviations, and bivariate correlations

	Mean	SD	LTVM	LTVS	ETVM	ETVS	Age	Sex	TRR	Health	FTP
LTVM	4.37	1.32	*.86*								
LTVS	3.83	1.36	-.46	*.87*							
ETVM	5.02	1.55	.31	-.23	*.93*						
ETVS	2.71	1.35	-.25	.34	-.71	*.89*					
Age	48.65	10.27	-.28	.13	-.53	.29	*n.a.*				
Sex	1.36	0.48	.12	-.09	.14	-.09	-.12	*n.a.*			
TRR	14.79	9.58	.22	-.11	.70	-.51	-.79	.15	*n.a.*		
Health	4.13	0.80	.30	-.03	.11	-.10	-.03	.10	.04	*n.a.*	
FTPmod	4.56	1.16	.49	-.23	.16	-.07	-.19	.06	.09	.32	*.91*
POS	5.00	1.29	.12	.00	.01	-.09	.05	-.04	-.13	.17	.17
PSS	5.40	1.23	.10	.02	.07	-.11	-.09	.02	-.01	.09	.10
Charismatic Leadership	5.00	1.47	.08	-.01	.02	-.06	-.01	-.05	-.04	.10	.10
Personal Initiative	4.49	1.23	-.12	.11	-.05	.00	.04	-.13	-.02	-.02	.01
Job Satisfaction	5.61	1.06	.11	-.01	.02	-.19	.14	.02	-.09	.15	.18
Aff. Organization Com.	4.78	1.39	.03	-.01	-.06	-.08	.07	-.01	-.14	.04	.09
Turnover Intention	2.56	1.48	-.12	.04	-.38	.43	.15	.00	-.21	-.07	-.02
Stress	4.33	1.58	-.13	-.03	-.01	.08	-.13	.08	.05	-.11	-.05
OCBO	5.35	0.55	.08	-.06	.01	-.07	.13	.05	-.15	.15	.12
OCBI	5.70	0.76	.02	.02	.00	-.04	-.02	.10	-.08	.07	.14
Job Performance	6.43	0.57	.07	.00	.13	-.12	-.09	.08	.06	.16	.16
Job Involvement	3.37	1.04	-.21	.18	-.04	-.06	.12	-.04	-.04	-.10	-.05
Work Involvement	3.47	0.99	-.19	.14	-.08	-.08	.23	-.02	-.10	-.05	-.10

Note. Table is continued on the next page

	POS	PSS	Charism Leader.	Personal Initiative	Job Satisfact.	Aff. Org. Commit.	Turnover Intent.	Stress	OCBO	OCBI	Job Perfor.	Job Involve.	Work Involv.
POS	*.94*												
PSS	.64	*.95*											
Charismatic Leadership	.53	.73	*.96*										
Personal Initiative	.11	.04	.06	*.86*									
Job Satisfaction	.57	.46	.38	.15	*.89*								
Aff. Org. Com.	.68	.47	.42	.21	.61	*.86*							
Turnover Intention	-.40	-.37	-.30	-.08	-.50	-.47	*.87*						
Stress	-.15	-.10	-.14	.21	-.25	-.06	.14	*.85*					
OCBO	.26	.16	.12	.20	.27	.27	-.15	.08	*.72*				
OCBI	.26	.27	.19	.15	.21	.25	-.11	.09	.40	*.87*			
Job Performance	.14	.21	.11	.08	.21	.07	-.14	.09	.40	.40	*.82*		
Job Involvement	.17	.07	.08	.44	.23	.31	-.15	.19	.10	.03	.07	*.85*	
Work Involvement	.13	.06	.07	.28	.28	.23	-.12	.07	.15	.04	.05	.74	*.86*

Note. All correlations above .12 are significant at p<.01; correlations above .09 are significant at p<.05.

Table 8.6
Regression outcome: Hypotheses 8.1a/b

	Job Involvement					Work Involvement				
Variable Entered	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**
Age	0.01	0.01	.11*			0.03	0.01	.21**		
Sex	-0.15	0.10	-.07			-0.20	0.10	-.10*		
FTP	-0.03	0.04	-.04			-0.06	0.04	-.07		
Aff. Org. Commitment	0.16	0.05	.23**			0.05	0.05	.07		
Job Satisfaction	0.14	0.07	.15*			0.23	0.06	.27**		
Health	-0.08	0.06	-.07			-0.05	0.06	-.05		
PSS	-0.12	0.06	-.15			-0.12	0.06	-.16*		
POS	0.02	0.06	.03			-0.02	0.06	-.03		
Charismatic Leadership	0.03	0.05	.04			0.06	0.05	.09		
Turnover Intention	-0.06	0.04	-.10			-0.05	0.04	-.08		
Stress	0.16	0.03	.26**	.203	.203	0.10	0.03	.17**	.173	.173
Step 2: ETVM	0.05	0.04	.07	.206	.003	0.05	0.04	.09	.177	.005
Step 3: ETVS	-0.06	0.05	-0.08	.209	.003	-0.08	0.05	-.12	.183	.005
Step 4: LTVM	-0.12	0.05	-0.14**	.227	.017	-0.10	0.04	-.14*	.197	.014
Step 5: LTVS	0.16	0.04	0.23**	.262	.036	0.126	0.04	.19**	.220	.024
Hypothesis 8.1										
Step 6: LTVM*POS	-0.01	0.03	-0.11	0.263	.000	0.02	0.02	.22	.221	.001
Step 6: LTVS*POS	0.03	0.02	0.24	0.265	.003	0.01	0.02	.09	.223	.002
Step 6: LTVM*PSS	-0.01	0.03	-0.07	0.262	.000	-0.01	0.03	-.07	.220	.000
Step 6: LTVS*PSS	0.04	0.03	0.36	0.266	.004	0.03	0.03	.33	.224	.003

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Table 8.7
Regression Outcomes: Hypotheses 8.3 a/b and Hypotheses8.5 a/b

	Job Performance					Personal Initiative				
Variable Entered	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**
Age	0.00	0.00	-0.06			0.01	0.01	.07		
Sex	0.07	0.06	0.06			-0.41	0.14	-.15**		
FTP	0.02	0.03	0.05			0.03	0.06	.03		
Aff. Org. Commitment	-0.09	0.03	-0.22**			0.14	0.07	.16*		
Job Satisfaction	0.15	0.04	0.26**			0.12	0.09	.10		
Health	0.09	0.04	0.13*			0.01	0.08	.01		
PSS	0.07	0.04	0.16			-0.10	0.08	-.10		
POS	0.05	0.04	0.12			-0.03	0.08	-.03		
Charismatic Leadership	-0.02	0.03	-0.05			0.03	0.06	.04		
Turnover Intention	-0.02	0.02	-0.05			-0.01	0.05	-.01		
Stress	0.07	0.02	0.18	.160	.160	0.20	0.04	.26**	.114	.114
Step 2: ETVM	0.01	0.02	.03	.161	.001	0.00	0.03	-0.03	.114	.000
Step 3: ETVS	0.02	0.03	.04	.162	.001	0.04	0.03	0.26	.114	.000
Step 4: LTVM	-0.03	0.03	-.07	.165	.003	-0.12	0.06	-.13*	.125	.011
Step 5: LTVS	0.01	0.03	.03	.165	.001	0.16	0.06	0.17**	.145	.020
Hypothesis 8.3										
Step 6: LTVM*POS	0.01	0.02	.22	.167	.002	-0.02	0.04	-.19	.146	.001
Step 6: LTVS*POS	0.01	0.02	.11	.166	.001	0.04	0.03	.27	.148	.004
Step 6: LTVM*PSS	0.01	0.02	.10	.166	.001	0.02	0.04	.12	.145	.000
Step 6: LTVS*PSS	0.01	0.02	.22	.166	.001	0.04	0.04	.32	.148	.003
Hypothesis 8.5										
Step 6: ETVM*Charism. Lead.	-0.01	0.01	-.15	.167	.001	0.01	0.03	0.07	.145	.000
Step 6: ETVS*Charism. Lead.	0.01	0.01	.10	0.166	.000	0.04	0.03	.21	.148	.003

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Table 8.8
Regression Outcomes: Hypotheses 8.3 a/b and 8.5 a/b

	OCBO					OCBI				
Variable Entered	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**	**β**	**Std. Error**	**b**	**R^2**	**ΔR^2**
Age	0.00	0.00	.06			0.00	0.01	-.01		
Sex	0.05	0.06	.05			0.07	0.08	.04		
FTP	0.02	0.03	.04			0.06	0.04	.09		
Aff. Org. Commitment	0.01	0.03	.02			0.08	0.04	.14		
Job Satisfaction	0.10	0.04	.19***			0.05	0.06	.07		
Health	0.06	0.04	.09			0.00	0.05	.00		
PSS	-0.01	0.04	-.02			0.10	0.05	.16		
POS	0.08	0.03	.19*			0.03	0.05	.05		
Charismatic Leadership	0.01	0.03	.02			-0.01	0.04	-.02		
Turnover Intention	-0.01	0.02	-.01			0.02	0.03	.04		
Stress	0.06	0.02	.17**	.168	.168	0.07	0.03	.13*	.123	.123
Step 2: ETVM	0.02	0.02	.06	.171	.003	0.00	0.03	-0.01	.123	.000
Step 3: ETVS	0.00	0.03	.00	.172	.001	-0.01	0.04	-0.01	.123	.000
Step 4: LTVM	0.03	0.03	.06	.174	.002	-0.02	0.04	-.03	.123	.001
Step 5: LTVS	0.02	0.02	.04	.174	.000	0.04	0.04	0.08	.127	.004
Hypothesis 8.3										
Step 6: LTVM*POS	0.00	0.02	.02	.174	.000	-0.02	0.02	-.29	.130	.003
Step 6: LTVS*POS	0.02	0.01	.36	.180	.006	0.03	0.02	.30	.132	.004
Step 6: LTVM*PSS	0.00	0.02	.07	.174	.000	-0.01	0.02	-.16	.128	.001
Step 6: LTVS*PSS	0.04	0.02	.58	.184	.010	0.03	0.03	.36	.131	.004
Hypothesis 8.5										
Step 6: ETVM*Transform. Lead.	0.02	0.01	.49	.184	.010	-0.01	0.02	-.15	.128	.000
Step 6: ETVS*Transform. Lead.	-0.02	0.01	-.38	.183	.009	-0.01	0.02	-.10	.128	.001

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

Table 8.8
Regression Outcomes: Hypotheses 8.4 a/b

	Job Satisfaction						Affect. Org. Commitment				
Variable Entered	**β**	**Std. Err.**	**b**	**R^2**	**ΔR^2**		**β**	**Std. Err.**	**b**	**R^2**	**ΔR^2**
Age	0.02	0.01	.13**			Age	0.01	0.01	.05		
Sex	0.10	0.08	.04			Sex	0.06	0.10	.02		
FTP	0.10	0.04	.11			FTP	-0.02	0.05	-.02		
Aff. Org. Commit.	0.25	0.04	.33**			Job Satisfaction	0.41	0.07	.31		
Health	0.07	0.05	.05			Health	-0.13	0.06	-.08		
PSS	0.12	0.05	.14*			PSS	-0.10	0.07	-.08		
POS	0.12	0.05	.15*			POS	0.51	0.05	.46		
Charismatic Lead.	-0.03	0.04	-.04			Charismatic Lead.	0.12	0.05	.12		
Turnover Intention	-0.19	0.03	-.27**			Turnover Intention	-0.15	0.04	-.16		
Stress	-0.08	0.02	-.11**	.565	.565	Stress	0.07	0.03	.08	.599	.599
Step 2: ETVM	-0.03	0.03	-.04	.566	.001	Step 2: ETVM	-0.16	0.04	-.18**	.617	.019
Step 3: ETVS	-0.14	0.04	-.19**	.580	.014	Step 3: ETVS	0.05	0.05	.05	.618	.001
Step 4: LTVM	-0.01	0.03	-.01	.580	.000	Step 4: LTVM	-0.05	0.04	-.05	.620	.001
Step 5: LTVS	0.02	0.03	.03	.581	.001	Step 5: LTVS	-0.03	0.04	-.03	.621	.000
Hypothesis 8.4						*Hypothesis 8.4*					
Step 6:						Step 6:					
LTVM*POS	0.01	0.02	.05	.581	.000	LTVM*POS	0.03	0.03	.17	.621	.001
Step 6: LTVS*POS	0.01	0.02	.04	.581	.000	Step 6: LTVS*POS	0.01	0.03	.06	.621	.001
Step 6:						Step 6:					
LTVM*PSS	-0.01	0.02	-.09	.581	.000	LTVM*PSS	0.01	0.03	-.04	.620	.000
Step 6: LTVS*PSS	-0.01	0.02	-.11	.581	.000	Step 6: LTVS*PSS	0.02	0.03	.14	.621	.001

Note. * = p < .05; ** = p < .01. All coefficients (b) are standardized.

CHAPTER 9: OVERALL DISCUSSION

Summary of results

This dissertation began with an interview study (Study 1) in which the concepts of Life Time Vector (LTV) and Employment Time Vector (ETV) were developed. The results of the interviews demonstrated that individuals varied dramatically in terms of how long or how expansive they perceive their LTVs and ETVs to be. Further, participants differed quite a bit in terms of how intensively they think about these two time contingencies. Interview responses indicated that LTV and ETV were not collinear with age or tenure. Instead, perceptions of LTV and ETV seemed to be driven by personal life experiences and by health histories of self and others. In consequence, Study 1 was concluded by further differentiating LTV and ETV into LTV magnitude and salience, and ETV magnitude and salience. Magnitude was defined as the individual's interpretation of whether the LTV or ETV is long or short and whether its ending will happen soon or in the more distant future. Salience was defined as the intensity with which the individual thinks about his/her LTV or ETV. These definitions were the starting point for Studies 2 and 3 in which a measurement scale for each construct was developed.

Study 2 was comprised of an item development stage, a brief content validity assessment, and an exploratory factor analysis (EFA) in which the homogeneity of each scale was assessed. The EFA results were used to eliminate poorly fitting items and to trim the scale to an acceptable size. An initial assessment of scale correlations and internal consistencies indicated that the resulting scales were unidimensional and not too highly correlated. Following recommendations by various authors (Hinkin, 1998; Netemeyer et al., 2003; Spector, 1992), a confirmatory factor analysis was performed in Study 3 with new data. Study 3 supported the proposition that the four scales load on four separate factors.

Study 4 was conducted with the goal to evaluate the construct validity of the newly formed scales and to gain insights concerning their relations with other, commonly used constructs. Study 4 revealed that the correlations between the newly formed scales are substantial, but not high enough to suggest redundancy. Further, although age was significantly correlated with all newly formed scales, the levels of correlation suggested that the newly formed constructs are only partially driven by the aging process. In general, the relations among the newly formed scales with existing indices of the aging process were high, but at levels that do not suggest complete overlap.

However, exceptions did exist. Specifically, ETVM was highly correlated with age ($r = -.62$) and time remaining until retirement ($r = .71$). LTVM was highly correlated with Future Time Perspective ($r = .66$; FTP; Carstensen et al, 1999). These levels of correlation suggest substantial overlap of the constructs in questions and require further investigation of whether the newly developed scales incrementally predict over and beyond the existing measures. To minimize overlap, the FTP scale was modified by removing the three items that correlated strongest with LTVM.

Study 4 further investigated the predictive validity of the LTVM and LTVS scales over and beyond traditional indices of time perspective. Specifically, hierarchical multiple regression analyses were conducted to assess the incremental predictive validity of LTVM and LTVS over and beyond age, tenure, time remaining in life (TRL), time remaining until retirement (TRR), and Future Time Perspective (FTP). For the motivational measures (status, accomplishment, and communion striving), it appeared that neither LTVM nor LTVS had incremental validity beyond those of extant measures. Specifically, results indicate that individuals with short LTVs show more status striving, and that individuals who think intensively about their LTV (high LTVS) demonstrate more communion striving. However, contrary to expectations, individuals with short

LTV showed higher levels of accomplishment striving. This finding suggests that the general gravitating away from the job towards sources of emotionally relevant events (e.g., family) may actually not take place.

Study 5 was designed to assess the effects of LTVM and LTVS on a variety of job related outcomes, such as job performance, work-family conflict, job satisfaction, affective organizational commitment, and work and job involvement. Overall, the main effects were not in the expected direction, if significant at all. However, job characteristics (task variety, task significance, decision making autonomy, and scheduling autonomy) moderated the relations between LTVM, LTVS and the respective outcome variables. In general, for individuals in favorable work conditions, small LTVM (and high LTVS) was typically associated with higher levels of job or work involvement, personal initiative, and job satisfaction than for individuals in unfavorable conditions. This finding indicates that job characteristics served as a buffer to a potential decline in work outcomes.

Study 6 was similar to Study 5, but variables that were anticipated to be outcomes of ETVM and ETVS were the focus of this investigation. Outcome variables were impression management, job performance, organizational citizenship behavior, career salience, job satisfaction, and commitment. In general, ETVM and ETVS did not have any predictive power. In addition, it was tested whether the retirement situation of the individual interacted with ETVM and ETVS. Contrary to expectations, the type of retirement did not affect the relationships. Study 7 introduced a variety of new moderators: perceived organization support, perceived supervisor support, and charismatic leadership. However, the results did not support the hypotheses that these moderators influenced the LTVM/LTVS-outcome relations.

Evaluation of LTVM and LTVS scales

Study 5, in particular, suggested that LTVM and LTVS both have predictive abilities for work related outcomes. However, the relationships were strongly contingent on the characteristics of the work environment the individual experienced. A central finding was that individuals in favorable work conditions typically report more effort on their job and more attachment to their work if their LTVM is small and if their LTVS is high. This finding clearly requires adapting the theory. Initially it was assumed that individuals universally experience a gravitating away from the job towards family, friends because such relationships were purported to be the source of highly desired emotionally relevant experiences as time remaining in life shortens (Carstensen et al., 2003). However, in the Carstensen et al. (2003) conceptualization this took place for individuals who were terminally ill (Carstensen & Frederickson, 1998) or otherwise directly confronted with their mortality (Fung & Carstensen, 2006; Fung et al., 1999). In these situations turning towards meaningful others for emotional comfort was a last resort as the usual life was coming to an end. In contrast, in this study individuals were mostly unthreatened by an untimely death; they were active, generally healthy, and working full time. For them, work life may have been a central source of emotionally relevant experiences. Specifically, jobs with favorable work conditions (operationalized as job characteristics; Hackman & Oldham, 1976) may serve as a source of emotionally relevant experiences. This study provides initial evidence that the characteristics of the work place may be suitable to enhance the LTVM and LTVS-outcome relation.

Further, the findings of this study are compatible with the general assumption that individuals gravitate toward more emotionally relevant goals and experiences (not necessarily away from the job). For individuals with jobs that feature a potential for meaningfulness (i.e., jobs with favorable job characteristics), this may mean an increase in job effort, work centrality,

and satisfaction, whereas individuals in unfavorable condition may react with a decrease of effort and centrality.

Although the moderation by job characteristics is encouraging, it is yet unclear whether individuals shift away from knowledge related goals towards emotionally relevant goals, as postulated by Carstensen and colleagues (Carstensen et al., 2003). Future studies should focus on proximal outcomes (the actual values and goals) and not behaviors that are driven by these goals (which was attempted in this study). This study made two attempts towards this objective. First, three motivational categories (accomplishment, status, and communion striving; Barrick et al., 2002) and job centrality measures were included. However, both approaches could be improved. First, in Study 4 in which the motivational measures were investigated, no moderators were assessed. This could be easily remedied in a follow-up study. Second, work and job involvement may not be suitable to capture the actual shift in values. Specifically, a person may perceive his or her job as very central, but for a variety of reasons. A person may find work central as a source of identity and opportunity to acquire knowledge and skills, whereas the same person, when he or she is older, may value the same work as an opportunity to be generative, competent, and embedded in a meaningful social network. Future measurements should, therefore, be more fine-grained, longitudinal, and specifically designed to detect value shifts within the domain of work life (see Barrick et al., 2002, for a good first step). Being able to provide evidence for this shift would certainly constitute a major insight into how the aging process is linked to the change of work related outcomes. Eventually, studies should include LTVM and LTVS as antecedents, a measure of shifts in value as mediators, and work related variables as outcomes.

Comparison with age and existing measures

This dissertation was initiated with the goal to provide a prospective measure of aging in addition to common, retrospective measures (most prominently chronological age). This study supports the common finding (McEvoy & Cascio, 1989; Ng & Feldman, 2008; Sturman, 2003) that age may not be suitable to describe or even explain changes in work related outcomes. Age was related to job satisfaction and affective organizational commitment, but age was unrelated to virtually all other outcome variables in this study. It remains, however, unclear what the specific mechanisms are that link age with job satisfaction and affective organizational commitment. Therefore, chronological age may paint a very incomplete picture of the aging process of an individual; a process that has been described to be characterized by extreme interindividual differences (Baltes & Willis, 1977).

In this regard, this study provides valuable insights in how the aging process may affect the individual's behavior and attitudes at work, ones that go beyond common assumptions. Commonly, the specific mechanisms through which age affects work related outcomes is often unclear and not specifically clarified. The most frequent assumption is that declines in cognitive ability lead to changes in job performance (Ackerman, 1996, 2000; Giniger et al., 1983). In contrast, this study tried to identify a more proximal mechanism that links the aging process to a variety of work related outcomes.

Evaluation of ETVM and ETVS scales

The predictive capacity of ETVM and ETVS was rather disappointing: ETVM and ETVS were generally not related to the predicted outcomes in this study. This may be due to a variety of reasons. First, ETVM and ETVS could both be valid constructs and predictive of some outcomes, but not the outcomes in this study. Second, the defining event for the employment time vector,

the end of employment or retirement is a fuzzy concept that does not provide a distinct end of the ETV. The demographic data suggest that in each sample only one in five individuals actually planned to stop working completely. The remainder had no plans, planned to change work, work for themselves, or work until health fails. Regardless of the specific plan, individuals who planned to actually stop working were in the minority, all others were intending to engage in some kind of bridge employment (Adams & Rau, 2004). As a result, for these individuals retirement was not a discrete event but a gradual transition. In consequence, cognitions about the ETV (magnitude and salience) may be blurry and undefined. In turn, the central theoretical building block of this study, the decrease in instrumentality resulting from a shrinking ETV, may simply not apply. It was initially assumed that certain behaviors (e.g., working long hours) may not be perceived as being instrumental, as life in the work force may come to an end and resulting rewards cannot be obtained. However, if work life does not come to a distinct end, behaviors on the job may keep their instrumentally, even beyond what may be considered retirement. In addition, Studies 4, 5, and 7 indicated that individuals increase work efforts with a decrease in LTV. Since the LTV and ETV partially overlap, decrease of work efforts due to a shrinking ETV may be compensated by increases in work efforts due to a shrinking LTV. In other words, individuals with a small LTVM may exert high work efforts which compensate for the decrease in work efforts due to a simultaneously shrinking ETV.

In study 6 two attempts were made to control for the influence of the individuals' specific retirement plans. First, retirement plans were coded as contrasts and, second, the specific retirement situations were coded as contrasts. These contrasts were entered into the regression model and were also entered as interaction terms with ETVM and ETVS. However, no significant interactions were found.

A possible explanation is that the "impending doom" assumption in the theoretical rationale put forward in this dissertation may not be true. Retirement may be, at least for some employees, an event that does not require the individual to change current behavior. It is conceivable that the end of work life may not be perceived as a true limitation to instrumentalities, as life certainly *continues* after retirement. Given this, it may be more plausible that impression management and job performance may be affected not only by the situation (i.e., the retirement situation), but also by the individual's personality traits.

Finally, all measures were designed to assess how individuals typically behave. In other words, a measure of, for example, impression management activities may have assessed impression management in the past. Ideally, however, it would have been useful to measure the individual's intention to engage in impression management behavior in the future.

Future studies should not only use the magnitude or the salience of the ETV as a predictor variable. The "quantity" of this time contingency is hard to determine. Instead, it may be useful to include the concrete *quality* of the ETV. What are the specific goals, what kind of retirement plans is the individual following, and are the activities and work conditions within the current organization conducive to the ETV plans of the individual? Currently, the nature of the specific retirement plan (e.g., the decision to seek bridge employment; Weckerle & Shultz, 1999) is primarily treated as an outcome variable. It seems more appropriate to include the concrete nature of retirement as a predictor of work behaviors and attitudes. It seems likely that individuals who plan to stay active or even to become entrepreneurs actively develop their careers, maintain high levels of work performance, and experience high levels of job satisfaction. This implies that individuals with an ETV that is characterized by high activity and maintenance or even expansion of one's professional skill level are likely to behave differently at work than individuals who will stop working abruptly.

Limitations

A central problem of these studies is that the only source of variance was differences between individuals but not changes within individuals. In other words, I can only conjecture that, for example, an individual who experiences a decrease of LTVM over time will react with a continuous increase in work involvement. Based on the contemporaneous findings presented, the only conclusion that can be drawn is that individuals with low LTVM have higher work involvement than individuals with high LTVM. Conclusions about effects of intraindividual changes can only be made using longitudinal data. In this case, changes may be due to cohort effects (Baltes & Baltes, 1990; Baltes, Lindenberger, & Staudinger, 1998) that are confounded but conceptually unrelated to the effects found in this study. It is, for example, conceivable that older individuals, who are also likely to have shorter LTVs, are systematically different from their younger counterparts, in terms of job satisfaction, work centrality, etc.

If possible, future studies should include some sources of intraindividual change, either in form of a longitudinal study or in form of an experimental manipulation. The former would require extended periods of time, which may be a critical problem. For the latter a practical and ethical manipulation may need to be found that is capable of altering individuals' LTVM and LTVS. For such endeavors terror management theory (Rosenblatt et al., 1989; Solomon et al., 1991) may be a useful starting point. Terror management theorists manipulate the salience of one's mortality and assess whether changes in mortality salience have effects (e.g., Martens et al., 2005; Wisman & Goldenberg, 2005).

An additional limitation of this study is the fact that all measures were assessed using the same methods. Therefore, it is possible that some of the results are due to common method variance (e.g.; Lindell & Whitney, 2001; Williams & Brown, 1994). To alleviate this problem, future studies should include measures that are not entirely based on survey methods.

The sample features of this study in general may pose some limitation to the usefulness of the results. For Studies 2 to 7 either college students or a university alumni organization were asked to distribute the surveys. Despite some variation in the sample characteristics, these methods resulted in a largely white, affluent, and well educated group of participants. When interpreting the results, the specificity of the sample should be kept in mind. Future studies clearly should include participants from varied socioeconomic backgrounds.

Conclusions

This dissertation sought to better understand how the aging process affects attitudes and behavior in organizations. The central proposition was that prospective measures of the aging process may be more informative for this purpose than the usual retrospective instruments used in past research. This dissertation demonstrates that the concept of Life Time Vectors, its perceived magnitude, and its salience to the individual may have an impact on what kind of behavior is displayed at work and what the underlying attitude may be. The concepts of ETVM and ETVS were not found to have direct effects on work behaviors and attitudes. However, this dissertation uncovered some of the complexities that future research should examine in order to better evaluate the predictive value of ETVM and ETVS.

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APPENDIX A

Newspaper advertisement

Penn State research study is seeking volunteers for one hour interviews.

We would like to ask you about your thoughts on your career, future, and retirement.

If you are employed and between the age of **30 and 70** and would like to participate please contact Alexander Schwall at (814)-222-4711 or by email: future@psu.edu. You will be paid $20 for your time.

APPENDIX B

Structured Interview Guide

Introduction

Before I start, I would like to introduce myself. My name is Alexander Schwall, I am a graduate student at Penn State and I am currently writing my dissertation. This interview will be an important building block to develop my dissertation and to guide further studies.

I would like to emphasize that I will not record your name, but only a number to associate this recording with my notes. Everything you say will be kept secret and cannot and will not be related to your person. The recording will be destroyed upon conclusion of the dissertation.

I would like to have a conversation with you about your work and what role it plays for your that you (as we all) are getting older.

"Easing in"

What kind of work do you?
What is your job?
When did you start doing it?
How much do you like your job, what is good about it, what is not so good?

Switching focus

I now would like to look at your future at work.

- How many more years do believe you will work
- At what age do you believe you will retire?

Why would you retire?

- Do you retire voluntarily? Because you can or because you have to

What is your retirement plan?

- E.g. stop working altogether, no plans, have not thought about it, get bridge job

Dimensionality of Retirement Horizon

Rumination

Do you ever think about your retirement (not the time after retirement)

- Precise: about the time that is left until retirement

When you think about it, what exactly are your thoughts
How often do you think about it
Do you think about how much time there is left until you retirement
How often do you think about this
When did you start thinking about it
Do you have a good feeling about this time or a bad feeling?
Do you talk about retirement with spouse, friends

- If yes with whom

Fuzziness and Process

How well do you think you can determine the amount of time you have left until retirement
How do you calculate [determine, assess] how much time you may have left

Capacity of RH

Do you have the feeling that time as a fully employed employee is running out

Do you have the feeling that the remaining time does not allow you to do whatever you have planned for your professional life
What things (if any) do you believe you need to do before "time is running out"
What dreams or career aspirations were you not able to put into action

System
If you retire, what do you have to take care of in your organization

Effects of restricted time until retirement

~~How do you react to the fact that your work life is finite?~~
- ~~Does this have an effect on your every day decision~~

~~Do you think time is running out in your work life~~

Effects on value
Keeping the time in mind that you have left in you organization, are there certain events or activities that you value more than others
- Do you value some things or events more today than you valued them before – again in the context of retirement
- [SHORT TRR]: are there things that seem more meaningful, now that retirement is in sight
  - what are these things
  - why are they more meaningful?
- [LONG TRR]: what are the things that are meaningful at work, what do you value?
  - What are these things?
  - Why are they meaningful for you?

Section Effects on instrumentality

Are there goals that you won't be able to reach because time in work life is running out

Background questions

What is your job?
Are you working full time?
What level of education did you obtain
Is you spouse working
What is his/her job
Is she working full time
Are you going to retire voluntarily or because you have to
Are continuing to work voluntarily or because you have to
What factors force you to retire or continue to work

Age, time remaining in life

How old are you?
To what age do you think you will live?

Dimensionality of time remaining in life

I would now like to ask some questions that probably make many people would consider rather glooming. However, I believe this play an important role in all our lives, so let me ask you:
To what age do you think you will live? Maximum age

Fuzziness and Process

How well do you think you can determine the amount of time you have left in life?
How do you calculate [determine, assess] how much time you may have left?

Rumination

Do you ever think about your end of life
When you think about it, what exactly are your thoughts
Do you think about how much time is left in you life
How often do you think about this
When did you start thinking about it
Have you talked about it with others

- Spouse, friends, family

Capacity of time left in life

Do you have the feeling that time is running out for you
Do you have the feeling that the remaining time does not allow you to do whatever you have planned? [capacity]
What things (if any) do you believe you need to do before "time is running out"?

Effects of restricted time left in life

General

How do you react to the fact that life is finite
Does this have an effect on your every day decision

Value

Are there certain events or activities that you value more than others
Do you value some things or events more today than you valued them before

- What things [elaborate: events accomplishments] do you value today that you did not value, lets say, 15 years ago
- What things don't you value today that you used to value?
  - 15 years ago
  - 10 years ago
- Some people value family life more than work life and some value work life more than family life. Have you experienced any changes?
- Open questions: do you have any other thoughts you would like to share?

APPENDIX C

Invitation for Studies 2 and 3

Dear *[to be filled in by the distributor]*_____

I was asked by a researcher here at Penn State to send you this email. The researcher (Alexander Schwall) is looking for people to participate in a scientific research study. I would like to encourage you to fill out the attached survey. This will take about 15-20 minutes, and all answers are confidential. He will not know who you are!

Please consider participating, Penn State is a big research university that depends on volunteers like you. If you any questions please contact Alexander Schwall– his contact information is given below.

Click on this link to get to the survey: www.workandretirement.org

Here is some more information from Alexander Schwall:

My name is Alexander Schwall, I am a doctoral student at the Pennsylvania State University. I am interested in how people think about retirement and their personal future. I would like to invite you to participate in this research study, which is part of my dissertation.

The survey usually takes about 15-20 minutes to fill out, and I would sincerely appreciate if you would participate. A university campus is full of college students, who are probably not thinking about retirement too much. Therefore, I have asked some students to forward this survey to you.

The participation is voluntary and if you change your mind you can do so at any time. This survey is confidential and I will not know who filled out this survey. Also, the student who forwarded this mail to you will not be able to see your survey response.
You will find all additional instructions on the next pages.
If you have any questions, please feel free to contact me. I can be reached at
814-222-4711 or by email: ars214@psu.edu.

You can also contact my advisor, Professor James Farr at 814-863-1734 or by email:
J5F@psu.edu.

My mail address is
Alexander Schwall
429 Bruce V. Moore Building
University Park, PA 16803

Best regards and thank you very much in advance
Alexander Schwall

APPENDIX D

Invitation for Studies 4, 5, 6, and 7

Dear Penn Stater:
As part of our ongoing mission to support Penn State's goals of teaching, research, and service, the Penn State Alumni Association occasionally receives requests for alumni to participate in academic research opportunities. Outlined below is one such request that I ask you to consider.
Conducted by Alexander Schwall, a doctoral student in psychology, this social science survey research focuses on issues related to retirement. Specifically, the goal is to better understand how individuals think and feel about retirement and how their outlook during that life phase impacts work life experiences. Your responses will contribute to a better understanding of how the transition to retirement can be managed and designed with positive outcomes for individuals, organizations, and society.
Please consider participating in this brief survey, which should take no more than 20 minutes to complete. Details and a link to the survey form are included below. We appreciate your input.
For the future,
Roger Williams '73,'75g, '88g
Executive Director

Dear Fellow Penn Stater,
My name is Alexander Schwall, and I am a doctoral student at Penn State. I would like to ask for a small amount of your time. I am currently conducting research for my dissertation on the topic of retirement.
If you are at least 30 years old and are working full time, please consider completing my short survey at the link below.
It is critical to this project to capture responses from people just like you — people who are working and who probably have had some thoughts about the benefits, disadvantages, and challenges of retirement.
The survey takes between 15 and 20 minutes and can be filled out online. All responses are completely confidential, and there will be no follow up once you complete the survey. To participate, click on the following link:
www.workandretirement.org/pennstate-d.html
Please consider participating. Your assistance will contribute to better understanding how the transition to retirement can be managed and designed in ways that are best for retirees, organizations, and our society in general.
Once you click on the link, you will be directed to the project Web site where you can obtain more information.
If you have any questions, please feel free to contact me. I can be reached at
814-222-4711 or by e-mail: ars214@psu.edu.
You may also contact my advisor, Professor James Farr, at 814-863-1734 or by e-mail: J5F@psu.edu.
My mail address is:
Alexander Schwall
429 Bruce V. Moore Building
University Park, Pa. 16802
Best regards, and thank you very much in advance for your time!
Sincerely,
Alexander Schwall

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VITA

ALEXANDER R. SCHWALL, A.B.D.

EDUCATION

Ph.D.	Industrial/Organizational Psychology; The Pennsylvania State University	2003 – 2008 (anticipated)
Diplom	Technical University at Aachen, Germany (Diplom regarded as equivalent to M.S. Degree at PSU) Diplom with distinction, Springorum Award	2001 – 2003

APPLIED EXPERIENCE

Vance & Renz, Ltd.; State College, PA	**Research Assistant**	**05/2007 – 09/2007**
I/O Psychology Student Consulting Project	**Student Consultant**	**08/2003 – 07/2005**
SHL GmbH; Hamburg, Germany	**Freelancer**	**05/2001 – 06/2003**
Roland Berger Strategy Consultants; Munich, Germany	**Internship in Corporate Management** ▪ Independently analyzed multinational employee survey data and developed post hoc research questions that were included in final research report ▪ Presented results of employee survey in final client meeting	**07/2002 – 10/2002**
SHL GmbH; Hamburg, Germany	**Internship in HR Consulting**	**01/2001 – 04/2001**
WPU GmbH; Vienna, Austria	**Internship in Organizational Development**	**07/2001 – 10/2001**
Eutelis GmbH; Düsseldorf, Germany	**Internship in HR consulting**	**10/1999 – 01/2000**