

## **Chapter 10: Lifespan Perspectives on Careers and Career Development**

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*Abstract:* This chapter intends to contribute to a better understanding of career development over the lifespan by examining individual and contextual factors contributing to life-long career development. Considering manifold changes in the work environment as well as throughout an individual's career, we review classic theories of career development in the beginning of this chapter. We then describe changes in today's careers, and depict modern career theories, such as the protean or the boundaryless career. Subsequently, we elaborate on sources of change over the lifespan from an individual perspective: We explain how changes in personality, work values, or goal setting influence career development. From an organizational perspective, we describe how changes in the psychological contract or various age norms may influence the career development of employees. In the last part of this chapter, we outline central career developmental issues for individuals over the lifespan and point out recommendations for organizations in order to help promote meaningful, fulfilling, and sustainable career development over the lifespan.

*Keywords:* Career development, development over the lifespan, sustainable careers, today's careers

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*Acknowledgement.* The contribution of Dr. Ariane Froidevaux was done within the framework of a postdoc mobility fellowship financed by the Swiss National Science Foundation (Project 168394).

## 1. Introduction

Seeing careers as evolving through a set of distinct stages has a long tradition in career research and vocational psychology. However, the nature of careers with today's increasingly complex, individualized, and flexible career paths (Sullivan, 1999) has called into question the nature and fundamental utility of age-specific career stages. For example, whereas in the last century success was largely defined by the organization and measured by promotions and increases in salary (Sullivan, 1999), nowadays, careers leave employees with fewer opportunities for vertical mobility with their current employers. In particular, as market pressures increase, associated with a need for employees to be lean and flexible, organizations tend to prefer short-term, transactional exchanges with their employees, which lowers the odds of vertical mobility within the company (Greenhaus & Kossek, 2014). Furthermore, as changes in market pressures have occurred due to increasingly global business environments, heightened job loss at all organizational levels has been observed (Greenhaus, Callanan, & Godshalk, 2010; Greenhaus & Kossek, 2014). Also, societal changes are affecting the contemporary career. The aging and diversification of the workforce, diversity of family structures, new technological advances, and the continuing globalization of the business environment (Greenhaus & Kossek, 2014) all posit new challenges and opportunities for the entire workforce, and particularly for the aging worker. The latter population finds itself in a complex environment, having to deal not only with changes in their life cycle demands, but also having to be able to adapt to and prosper in today's workplaces.

Furthermore, in today's careers, a concept of mutually exclusive, distinct career phases does not consider the increasingly dynamic nature of career development. Therefore, this chapter provides an updated and concise overview and integration of key career developmental issues across the lifespan. A key contribution of this chapter is that we do not

simply propose age-specific career tasks, but instead derive implications for career development over the whole lifespan.

This chapter contributes to the literature on careers in several ways. First, we provide an integrative review of models of career development and theories of adult development in the light of today's changing work environment. Second, we explore the effects of these changes by integrating a range of theories and empirical findings on career development over the lifespan. Third, we present implications for individual and organizational career developmental issues that are typically encountered throughout the career, and we provide a summary of our findings. After having described the traditional views of career development over the lifespan (part 2) and emphasized the modern views (part 3), we present a novel framework of career development over the lifespan that focuses on the intersection between individual and organizational sources of change (part 4) and specific career development issues (part 5).

## **2. Traditional Views of Careers Over the Lifespan**

There are numerous theories that deal with career development over the lifespan. Traditional career development theories are mostly stage theories based on theories of adult development from the first half of the 20<sup>th</sup> century (Feldman, 1989). The two most important theories used to explain changes in people's careers over the lifespan are Levinson's life stage developmental model (Levinson, Darrow, & Klein, 1978; Levinson, 1986) and Super's life-span model (Super, 1957; Super, 1990). These two models have in common that they consider adult lives as a progression of stages, each of them including explicit and prescriptive developmental tasks. While in Levinson's model, these changes are strictly determined by age, in Super's later adaptations of his life stage model, the transitions are viewed as more flexible, involving a recycling through so-called mini-cycles during each

transition (Super, 1990). Another model with consecutive stages is Cron's (1984) career stages theory, which is very similar to Super's and Levinson's models in that there are distinct, consecutive stages to traverse, with each stage having its own concerns, tasks, challenges, and needs. However, in Cron's model, the stages are not strictly based on chronological age. Instead the next developmental stage is reached when the developmental tasks of the previous stage are successfully dealt with. We give a brief overview of the developmental life cycle with the example of Levinson's work, who was among the first to empirically study lifespan career development in a longitudinal manner.

In Levinson's life stage developmental model, the author postulates that the life cycle evolves through a sequence of eras, each lasting roughly twenty-five years. These eras partially overlap and each has its own distinctive and unifying qualities, taking account of biological, psychological, and social aspects of development, constituting the macro-structure of the life cycle (Levinson et al., 1978). The authors define the life cycle as made up of the following eras: Childhood and adolescence/pre-adulthood: age 0–22; Early adulthood: age 17–45; Middle adulthood: age 40–65; Late adulthood: above age 60.

From a career perspective, the first important transition is the early adult transition, at around age 17–22: The major tasks when entering the adult world include: 1. Forming a *dream* and giving it a place in the life structure; 2. Forming *mentor relationships*; 3. Forming an *occupation*; 4. Forming *love relationships, marriage and family*. Other common tasks of this phase include relating to authorities and gaining greater authority oneself; relating as an adult to people at different age levels; and forming an adult outlook and values regarding religion, politics, ethnicity, and community (Levinson et al., 1978).

The second main transition occurs at around age 40–45: the mid-life transition and entering middle adulthood. The underlying tasks during this stage are to settle for a few key choices and to pursue long-range plans and goals within it (Levinson et al., 1978). This

settling down period ordinarily begins at around age 30 and ends at 40–45, constituting one of the most crucial steps in adult development. Important developmental tasks in this period are building a second adult life structure, which includes a process of termination of the previous life structure (leaving the pre-adult world), as well as a process of initiation of the settling down period. The settling down period is described as the time for a person to realize the hopes of their youth. Levinson et al. (1978) distinguished five ways of establishing the second life structure: 1. *Advancement within a stable life structure*; 2. *Serious failure or decline within a stable life structure*; 3. *Breaking out and trying for a new life structure*; 4. *Advancement which itself produces a change in life structure*; and 5. *Unstable life structure*. Although there is nothing absolute about these five categories, the authors describe them as convenient means of describing variations in the development within the settling down period.

Individuation is a process included in all developmental transitions (Levinson et al., 1978), but particularly important in midlife transition. The authors identified four primary tasks in the individuation process, each of them involving the reintegration of fundamental polarity in the character of living. This polarity has sources within oneself and society and a person's task in the mid-life transition is to work on the polarities that animate and divide them. The four polarities are: 1. *Young/Old*; 2. *Destruction/Creation*; 3. *Masculine/Feminine*; and 4. *Attachment/Separateness*. From a work perspective, this entails the meaning of success and failure to an individual and the place of a person's occupation in their life structure

The late adult phase is less well researched, although the authors state that the developmental process of growth, decline, and change continue (Levinson et al., 1978). From roughly age 55 to 60, a stable period is devoted to building a second middle adult structure, and finally from about 60 to 65, the late adult transition terminates middle adulthood and

creates a basis for starting late adulthood. The tasks of this transition are to conclude the efforts of middle adulthood and to prepare oneself for the era to come.

To describe the late career phase in more detail, we now broaden our perspective to also include the previously mentioned developmental theories of Super and Cron when describing the late career phase. As such, traditional career theories mostly saw the late career as a phase of decline and withdrawal from work (Sullivan, 1999). As the names of the phases in these models describing late career (maintenance, disengagement, decline) suggest, the tasks in these stages are mainly aimed at trying to compensate for losses, keep the status quo, and to finally withdraw from employment altogether. First, all three models by Levinson, Super, and Cron state that older workers need to rely on previous life phases and life experiences to build the late career phase. For example, proposed tasks include holding on to earlier achieved accomplishments, recognizing one's mortality and limits on possible achievements, and resolving the identity issues raised by these experiences. Second, the models mention tasks related to job attitudes and career development. Here, the focus is less on decline, but rather on maintenance and development preserving the status quo. For example, maintaining an acceptable performance level and developing a broader view of one's work and organization. Finally, all three stage models depict the need for older workers to detach from work, establish a stronger self-identity outside of work, and to finally develop a self-image that is independent of one's job. Combined, these developmental tasks reflect traditional careers pursued in organizations, when after a linear and conformal work life, older workers are assumed to retire from their lifelong position. These workers will have built an important part of their identity based on their jobs and careers, which were rather uniform and stable.

These traditional career models have been created for a traditional workplace in the 20th century, when it was common that employees would spend their whole career at a very

small number of employing organizations, where they could expect constant upward mobility due to tenure. By contrast, in the last decades, careers started to change in multiple ways, precluding stable and rather uniform careers for many employees. In addition, these career stage models have been introduced in a time when the career development literature was focused almost exclusively on white-collar, male professionals (Ornstein, Cron, & Slocum, 1989). Therefore, it has been argued that these developmental models are too uniform and prescriptive for today's workplaces and employees, and need to be reinvented and updated according to recent changes in the work environment (Blustein, 2011; Hartung & Taber, 2013).

### **3. Modern Views of Careers Over the Lifespan**

In the last few years, many publications have broached the issue of the changing business environment and today's changing careers in comparison to the last century. Many authors stated that the way we view careers has dramatically changed (Briscoe, Hall, & DeMuth, 2006; Inkson, 2006; Sullivan, 1999). Recent theorizing in vocational psychology speaks of a crisis of traditional career development models and the importance of a life design framework that emphasizes career construction rather than career development (Wehmeyer et al., 2018). Whereas traditional career theories assumed environmental stability, had an intra-firm focus and hierarchical assumptions, and conceptualized careers as progressing in linear career stages (Sullivan, 1999), today's work environment is increasingly competitive, complex, and turbulent, with heightened probabilities of job loss on every level, fewer opportunities for vertical mobility, and higher levels of voluntary and involuntary inter-organizational mobility (Greenhaus & Kossek, 2014). As organizations need to be flexible due to changes in market pressures and globalization, instead of long-term employment relationships, they increasingly opt for short-term transactional exchanges with employees

(DiRenzo & Greenhaus, 2011). Moreover, due to globalization, the number of employees pursuing an international career with frequent assignments abroad, as well as individuals working in cultures other than their own, is predicted to exponentially grow in the coming decades (Greenhaus & Kossek, 2014). This suggests higher demands on employees, who have to be able to compete internationally, efficiently use information technology, and be able to react to changes in the work environment much faster than ever before (Greenhaus & Kossek, 2014). Furthermore, there is a heightened need for self-initiative and constant worker adaptation due to these trends (Van der Heijden, Schalk, & Van Veldhoven, 2008).

An additional factor is that the workforce today is more heterogeneous than ever before. Factors that lead to heightened diversity in the workplace include the increased participation of women in the workforce (Hammer, Allen, & Grigsby, 1997), the growing number of workers from other cultures due to globalization, and the aging of the workforce (Schweitzer, Lyons, & Ng, 2014). The number of people aged 55+ is expected to grow by more than 15 per cent between 2010 and 2030 due to longer life expectancies and declining birth rates in developed countries (Van der Heijden et al., 2008). On the one hand, this implies that companies have to rely on healthy older workers to stay in the workforce longer. On the other hand, older adults who are not able to work because of health reasons need to be taken care of by their social environment. Considering today's diversity of family structures and the increasing amount of dual-earner families and single parents, a significant portion of the workforce is likely to express a need to balance their work with their personal lives, due to parenting or elder care, as well as for other personal reasons (Greenhaus & Kossek, 2014).

The abovementioned changes in contemporary careers (i.e., careers being less structured and linear, more unpredictable, and associated with less job security and more varied approaches to retirement; DiRenzo & Greenhaus, 2011) are often subsumed under the concepts of *protean* and/or *boundaryless* careers (Inkson, 2006). First, boundaryless careers

(Sullivan & Arthur, 2006) emphasize the interdependence between boundaries that are physical (i.e., individual's work for a specific employer, in a specific career field) and psychological (i.e., individuals' perception of their ability to cross the physical boundaries). According to these authors, the greater individuals' career competencies, the higher likelihood they will experience psychological and physical career mobility (Wang, Olson, & Shultz, 2013). By contrast, protean careers (Hall, 2004) refer to a career orientation in which the person, not the organization, is in charge. Career decisions are thus driven by the individual's core values and self-directedness, not the organizations'. This implies a stronger emphasis on the subjective (e.g. personally meaningful or satisfying work), rather than objective (e.g. high salary or prestigious position), forms of career success.

Careers are likely to be customized through reduced-workload arrangements, telework, and employment discontinuities or sabbaticals. In this context, self-management of one's career (a core aspect of the protean career) is increasingly important, given that many employers do not invest in the long-term employability of their workers, and employees need to remain employable in order to balance out the heightened risk of being laid off (Greenhaus & Kossek, 2014).

A final issue to address is the changing nature of career success. Because options for vertical mobility and hierarchical advancement are decreasing due to flatter inter-organizational hierarchies, this traditional hallmark of a successful career (Greenhaus & Kossek, 2014) is losing importance. Given that the workforce is increasingly diverse in terms of career and life values, it is essential that individuals develop their own idiosyncratic views of what constitutes success in their careers for them (Arthur, Khapova, & Wilderom, 2005). In line with this thought, the notion of sustainable careers is often promoted. Sustainable careers should enable employees to have positive career experiences in the present and remain engaged over the long term, and thus promote individual well-being as well as

organizational effectiveness (Newman, 2011). Applied to the late career phase, sustainability implies a focus on continuity throughout career episodes, on the flexibility of older workers, and an oscillation in late careers between periods of full- and part-time work and retirement (Froidevaux & Hirschi, 2015).

In sum, changes in today's careers call for a different approach to describe career developmental issues than found in the previously reviewed stage-based career models. Because workers cannot rely on career-long job stability and succession through tenure anymore, age-bound career stages are losing their utility in such a complex and non-linear work environment. In order to specifically describe and explain the changing opportunities and threats that workers are nowadays confronted with in the context of modern careers, in the remainder of this chapter we will provide a novel framework of career development over the lifespan that focuses on the intersection between individual and organizational sources of change and specific career development issues (see Figure 1).

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#### **4. Sources of Change Over the Lifespan**

Next, we argue that careers change with age and due to changing environmental factors. These changes then lead to specific career developmental issues throughout the lifespan. Before addressing the latter point, we first review various major intra-individual and contextual factors of career development over the lifespan. Our chapter builds on these various factors outlined in the following sections. Contextual factors, such as changes in the work environment, and intra-individual factors, such as changes in personality or job

attitudes shall be outlined and discussed in the next paragraphs. Furthermore, we shed light on different conceptualizations of age and aging, investigating alternative age concepts, such as subjective age because these variables have found their way from gerontology and consumer psychology to work- and organizational research in recent years. Specifically, the concept of subjective age, and more precisely, younger subjective ages, have been highlighted by previous research as an important mechanism that is associated with slower rates of age-related decline and higher levels of physical and psychological functioning in the older population (Kotter-Gruehn, Kornadt, & Stephan, 2016). Thus, it provides interesting new perspectives on lifelong changes in careers.

#### **4.1. Intra-individual Factors**

Building on the lifespan theories covered in section one of this volume, in the following we describe the intra-individual factors contributing to life-long career development. Without the aim of being comprehensive, we have chosen main developmental areas to illustrate the manifold changes throughout the career.

*Changes in personality.*<sup>1</sup> Although the classical trait perspective suggests that personality traits in adulthood represent stable inter-individual differences (Roberts & Mroczek, 2008), the contextual perspective emphasizes personality changes as a reaction to life experiences, such as role transitions. Supporting the latter view, recent research shows meaningful changes in personality traits with age may occur through two approaches (Caspi, Roberts, & Shiner, 2005): Differential or rank-order changes (i.e., relative degree of changes in personality at an inter-personal level) and mean-level changes (i.e., changes in the average

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<sup>1</sup> For a detailed discussion of personality development over the lifespan, please refer to Chapter 3 in this volume. Interested readers can further refer to the work of Roberts and Mroczek (2008).

trait level of a population). Whereas rank-order stability in personality traits is remarkably high over the entire lifespan and peaks over the age of 50, mean-level changes do occur and support a lifespan developmental view of changes in personality traits (Caspi et al., 2005). These results are also meta-analytically supported: Statistically significant mean-level changes occurred in 75% of personality traits in middle age (40–60) and old age (60+), evincing increased warmth, self-control, and emotional stability as people age (Roberts & Mroczek, 2008). As a recent longitudinal study (Wille, Hofmans, Feys, & De Fruyt, 2014) revealed, workers' mean levels of personality traits agreeableness and conscientiousness increases, whereas neuroticism decreases over time. This signals the possibility of the maturation of job attitudes along with personality over time. Generally, as people age, their well-being improves and workers show higher positive and lower negative affect with increasing age (Charles, 2010; Scheibe, Wisse, Schulz, & Pachana, 2015). There is also meta-analytical evidence that older workers show higher levels of organizational citizenship behavior and lower levels of counterproductive work behavior, less workplace aggression, less on-the-job substance abuse, tardiness, or voluntary absence (Ng & Feldman, 2008). These changes in personality explain why work potentially becomes a more satisfying experience as people age and imply more emotional attachment to work, better relationships with coworkers, and overall more positive work values as people age (Kooij, De Lange, Jansen, Kanfer, & Dikkers, 2011).

*Changes in cognition.*<sup>2</sup> Even though some central aspects of cognitive change follow a U-shaped development over the lifespan (with low levels in children and older adults and peaks in early adulthood and mid-life), the notion that cognitive aging is simply “development in reverse” is outdated: Cognitive changes at each end of the lifespan appear to

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<sup>2</sup> For a detailed discussion of changes in cognition over the lifespan, please refer to Chapter 2 in this volume.

be qualitatively different because factors such as maturation, environmental influence, and individual differences (speed, processing efficiency, learning experience, etc.) have very different impacts on individuals throughout their lifespan (Craik & Bialystok, 2006).

Although there is an overall negative relationship between age and a variety of cognitive functions, many of these capacities remain stable until later in life, such as age 60 or above, and only gradually decline thereafter (Salthouse, 2006). For instance, although perceptual speed starts to decline at age 25, it only starts significantly declining after age 60 (Salthouse, 2012). Further, cognitive functions can be grouped under two broad categories: fluid intelligence and crystallized intelligence. Fluid intelligence (e.g., processing speed, working memory, selective attention) peaks in early adulthood and continuously decreases later in life. Crystallized intelligence (e.g. accumulated knowledge, skills, wisdom) peaks at around age 60 (Truxillo, Cadiz, & Hammer, 2015) and is relatively stable into later life. Another conceptualization is the distinction between the representational system and the control processes acting on these systems (Craik & Bialystok, 2006). Whereas in childhood and older age cognitive performance is initiated mostly in response to environmental contingencies, in young adulthood and middle age, behavior is predominantly under the control of internal mental states. Therefore, the trajectory of a single development process cannot adequately account for complex cognitive changes over the lifespan (Craik & Bialystok, 2006).

Although there is a long-established positive relationship between cognitive ability and job performance, there is no consistent negative relationship between age and job performance (Truxillo et al., 2015). Whereas there are certain professions that require maximum performance in fluid intelligence (e.g. traffic air controllers) where there might be a clear age-related decline, in other professions which utilize predominantly crystallized intelligence (e.g. high-level supervisors), people may show age-related improvements.

*Changes in work values.*<sup>3</sup> Work values represent what people want and expect from work (Nord, Brief, Atieh, & Doherty, 1988) and are generally assumed to be relatively stable across one's adulthood, with a peak in stability after the age of 50 (Jin & Rounds, 2012). This stability can be explained by occupational-selection and occupational-socialization models (Mortimer & Lorence, 1979). Stability and change in work values can be inspected through the two aforementioned approaches: First, rank-order stability, which describes the stability of the relative importance of a work value in comparison with other people; and second, mean-level change, which represents intra-individual changes as a consequence of maturation and societal changes. Although work values' rank-order stability is high over time and thus supports the idea that work values are relatively stable inter individual differences, mean-level change does occur as people age (Jin & Rounds, 2012). Such changes with age are a shift in work motivation from extrinsic motivation to intrinsic motivation (i.e. importance on internal rewards such as meeting one's values); less attention paid to competition; and more on developing or coaching others, as well as affirming one's identity and self-concept (de Lange, Van Yperen, Van der Heijden, & Bal, 2010). Also as people age, they tend to develop a less idealized view of work (Wey Smola & Sutton, 2002). These changes imply that the meaning of work for older workers also changes. As older workers pay less attention to competition, their meaning of work is decreasingly one of satisfying power and achievement motives and more based on generative motives and gratifying their internal drivers and values (Kooij et al., 2011).

*Changes in job attitudes.*<sup>4</sup> Overall, job attitudes have been found to slightly shift with age: Older workers report higher job satisfaction, lower levels of burnout, and generally more

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<sup>3</sup> For a detailed discussion of changes in work values over the lifespan, please refer to Chapter 21 in this volume.

<sup>4</sup> For a detailed discussion of changes in job attitudes over the lifespan, please refer to Chapter 21 in this volume.

favorable and less unfavorable job attitudes (Ng & Feldman, 2010). These findings are consistent for task-, people-, and organization-related aspects of well-being (Scheibe et al., 2015). Regarding one key job attitude—job satisfaction—recent research (Thielgen, Krumm, Rauschenbach, & Hertel, 2015) has shown that job satisfaction is closely linked to the congruence of implicit and explicit motives in the affiliative domain for older workers, specifically. The affiliative motive domain is the third of *the big three motive domains*, next to the power and achievement domains, and represents all kinds of positive relationships with other people (McClelland, Koestner, & Weinberger, 1989). Whereas power and achievement motives are more pronounced in younger employees, the affiliative domain is of growing importance to older workers. Given that the need for congruency between implicit and explicit motives increases with age, older workers can satisfy their affiliative motives when their implicit and explicit motives are in congruence, resulting in increased job satisfaction (Thielgen et al., 2015). Research on job attitudes also showed that people in the *maintenance* or *decline* phase of their careers do not report lesser degrees of job satisfaction, commitment, or involvement with their work than other age groups (Ornstein et al., 1989). This contradicts the assumption in classical career stage models, as reviewed above, and their prescribed developmental tasks, which state that older workers are concerned with disengagement from work. If this is the case, job satisfaction, commitment, and involvement would be expected to decrease with age, which has not been found in previous empirical research or meta-analyses (Truxillo, Cadiz, Rineer, Zaniboni, & Fraccaroli, 2012). Such contradiction represents an interesting avenue for future research.

*Changes in goal setting and motivation.*<sup>5</sup> According to socio-emotional selectivity theory (Carstensen, Isaacowitz, & Charles, 1999), with increasing age, time perspective shifts

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<sup>5</sup> For a detailed discussion of changes in goal setting and motivation over the lifespan, please refer to Chapters 6 and 20 in this volume.

from open-ended (i.e., life lived from birth) to limited (i.e., life left until death), thus implying growing importance put on the *time left*. When such boundaries on time are perceived, present-oriented goals related to emotional meaning are prioritized over future-oriented goals (Lockenhoff & Carstensen, 2004). Thus, meaningful work becomes of growing importance as workers age (Froidevaux & Hirschi, 2015). Furthermore, selection-optimization-compensation theory (Baltes & Baltes, 1990) states that the motivational focus shifts from a growth and developmental perspective to a maintenance and loss-reduction orientation as people age. This theory is commonly used to explain the decline and disengagement stages in the classical career stage theories. Similarly, the motivational theory of lifespan development (Heckhausen & Schulz, 1995)<sup>6</sup> states that over the lifespan, primary control (e.g., investing time, effort, and persistence for goal achievement) decreases and secondary control (e.g., enhancing motivation and commitment to the chosen goal) increases. According to this theory, in order to maximize control in multiple domains of life in spite of possible biological constraints, older workers need to compensate for declining skills and increasingly disengage from goals that are unattainable. Although this decline perspective is the tenor of most of the theorizing regarding aging and work (Kay & Heckhausen, 2015), we propose that this is not necessarily the case. Notably, the theory of Heckhausen and Schulz (1995) states that the changes between primary and secondary control undergo systematic shifts across the life course in response to the opportunities and constraints encountered. This implies that if older workers are healthy and are also motivated to work, they can successfully use opportunities, face less constraints, and thus continuously use primary control strategies. Moreover, research has shown that major physical and cognitive declines usually only appear after the age of 80 (Robine & Ritchie, 1991), and are likely to appear even later in the future due to the trend of increased longevity (Williamson & Christie, 2009).

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<sup>6</sup> For a detailed discussion, please refer to Chapter 5 in this volume.

Also, the majority of older workers are physically and psychologically healthy (Williamson & Christie, 2009) and thus do not have to necessarily withdraw from work. Thus, the view of decline and disengagement with increasing age, and the thereby assumed developmental tasks in classic career stage models do not adequately represent the current knowledge about ageing.

*Changes in subjective age.* In recent years, growing attention has been paid to the concept of *subjective age*, as opposed to *chronological age*, given that the former was shown by previous research to explain additional variance above chronological age in developmental (Kotter-Gruehn et al., 2016) and work-related (Kunze, Raes, & Bruch, 2015; Zacher & Rudolph, 2018) outcomes. According to Schwall (2012), subjective age comprises a subjective evaluation along four dimensions: How I look, how I feel, how I behave, and what my interests are. Depending on the evaluation of these four dimensions, people may perceive that they are currently older, younger, or have the same subjective age as their chronological age. Schwall (2012) reported that older adults today generally feel younger than their chronological age, which may be due to some self-optimization strategy, or to some bias to resemble socially desired ages (i.e., younger ages). A related notion is *perceived relative age*, which refers to how old one feels compared with others in a group or team (Schwall, 2012). For instance, being 40 years old, one may feel young compared to one's colleagues, whose age average is around 55, or old if the average is around 30 years.

How old one feels is also related to the *psychological aging experience* (Fasbender, Deller, Wang, & Wiernik, 2014), which implies that people experience aging differently, depending on four dimensions: physical and social losses (i.e., negative experience), and personal growth and gaining self-knowledge (i.e., positive experience). In a similar vein, the concept of *subjective life expectancy* has been recently introduced (Griffin, Hesketh, & Loh, 2012), referring to one's estimation of one's probable age of death. Subjective life expectancy

describes individuals' unique mental model of their remaining time, which has been shown to influence their aging process, such as retirement transition and planning (Griffin et al., 2012). In line with socio-emotional selectivity theory (Carstensen et al., 1999), older adults evaluating their lives as shorter would focus on their time left, which may be associated with a greater wish to pursue meaningful social interactions and activities, such as work (Froidevaux & Hirschi, 2015). Regarding career development over the lifespan, we propose that younger subjective age, longer subjective life expectancy, and a more positive aging experience contribute to a more positive and fulfilling career over the lifespan.

#### **4.2. Contextual Factors**

We propose that the contextual factors of the work environment previously outlined are one important aspect useful for explaining career development over the lifespan in today's workplaces. According to modernization theory (Inglehart, 1997), societal, historical and economic changes result in value shifts that influence how people define what is important to them regarding their careers (Jin & Rounds, 2012). The aging and diversification of the workforce, diversity of family structures, new technological advances, and the continuing globalization of the business environment (Greenhaus & Kossek, 2014) all posit new challenges and opportunities for the entire workforce, but particularly for the aging worker. The latter population can find themselves in a complex and bewildering environment, having to transition not only to their lifecycle demands, but also having to be able to adapt to and prosper in today's new organizational environments.

*Changes in the psychological contract.* Psychological contracts, as more broadly described in Chapter 19, consist of unwritten, individualized beliefs in a reciprocal obligation between the individual and the employing organization (Rousseau, 1989). Whereas in the 20<sup>th</sup> century, the traditional psychological contract entailed long-term commitment and loyalty from the employee in exchange for job security and the possibility of constant upward

mobility, this career contract overwent substantial changes in today's organizational context (Wang et al., 2013). Nowadays, short-term, transactional exchanges prevail because organizations need to be increasingly lean and flexible due to heightened market pressures (DiRenzo & Greenhaus, 2011). Furthermore, age can also have an impact on the psychological contract. As previous research demonstrated, older workers expect less from their employers, and are more benevolent and decreasingly sensitive to breaches and violations of the psychological contract (Bal, 2015). These changes in the psychological contract influence the meaning of work particularly for late career employees because of their comparatively long organizational tenures and their resulting customization to stability and job security.

*Changes in social age norms.* Age serves an important societal function. Depending on our age, we are, for example, allowed to engage in certain activities, such as watching age-rated movies or drinking alcohol. Along this line, sociologists have shed light on the fact that age represents a major dimension of social organization, which people then use to organize and interpret their life events and subjective experiences (Neugarten & Neugarten, 1986). Indeed, one's life course is structured by socially relevant periods, accompanied by rights and responsibilities, such as retirement. This has been referred to as *social age* (Schwall, 2012), which refers to the fact that somebody might be categorized as young or old for a specific transition: For instance, retiring at the age of 80 would be usually considered as old. Further, social age may also imply the age we look like according to other people (e.g., "I thought you were 30, not 40"). In the last two decades, however, changes have occurred in this normative life course, structured by age. As life cycle structures have become more fluid (Shanahan, 2000), careers have also evolved and have become less predictable (e.g., Hall, 2004). Consequently, age is becoming less useful as a predictor of life events and transitions, such as when to finish one's studies or when to get married. Regarding career transitions, this

can be related to the notion of *career age*, which has been suggested to replace chronological age (Wang et al., 2013). Indeed, some individuals might be categorized as too young to retire (i.e., to pursue their late career mainly with volunteering and leisure activities), which may reinforce the importance of (paid) work as a life domain (i.e., meaning of work); whereas being categorized as too old to work part-time may challenge one's view of the meaning of work and necessitate potential adjustment from the individual (e.g., gradually diminish the meaning of work).

*Changes in organizational age norms.* The functioning of age is also dependent on the age norms of the employing organization and industry (Kunze et al., 2015). Different industries and positions have certain implicit age norms (e.g., a CEO is usually older than an assistant; the IT sector has younger employees, etc.). These implicit age norms also shape the subjective experience of one's age and might cause a considerable gap in the extent to which employees' subjective age reflects their chronological age (Kunze et al., 2015). As also reviewed above, this relative subjective age posits an important factor considering the meaning of work because employees' average experience of high work-related meaning is positively related to a lower subjective age in their organizations (Kunze et al., 2015).

Furthermore, research has shown that if someone violates these implicit rules about what position is appropriate for their given age, one will be perceived more negatively by their coworkers and superiors (Lawrence, 1984). This posits an important issue regarding age-stereotypes and age-discrimination in the workplace. Negative age stereotypes are often used as justifications for unfairly treating or discriminating against older workers (Ng & Feldman, 2012). Although it has been meta-analytically demonstrated (Posthuma & Campion, 2008) that common age-stereotypes (e.g., older workers are less motivated and less willing to participate in training and career development) are mostly not correct, they still prevail in organizations and the general population.

## **5. Career Development Issues Over the Lifespan**

Before we describe the most important career development issues derived from the abovementioned intra-individual and contextual changes, some general points regarding stability and change of the listed variables should be mentioned. First of all, it's important to take into account that continuity and change are not mutually exclusive, but rather coexist as people age (Jin & Rounds, 2012). It is also noteworthy that according to the theory of aged heterogeneity (Nelson & Dannefer, 1992), people become more heterogeneous as they age. This is reflected in findings which show greater differences in behavior and attitudes within age groups than between age groups (Posthuma & Campion, 2008). Thus, workers of all ages represent a very diverse population, and a simplistic career-stage model with the anticipation of quasi-prescriptive developmental recommendations does not adequately represent reality. Therefore, we call for a more flexible and adaptable view of careers over the lifespan, where workers can and should optimize and customize their career according to individual circumstances and preferences.

### **5.1. Individual Career Development Issues**

Based on the previously outlined changes during the lifespan of an individual, as well as the changing circumstances in today's workplaces, we provide in the following an overview of the main career developmental issues over the lifespan, first, from an individual perspective, followed by suggestions for organizational career development.

*Experience career renewal.* Career renewal, defined as an opportunity for personal and professional growth, has been recently highlighted by Wang et al. (2013) as one of the main issues for mid and late careers. Whereas previous literature has associated career renewal to the mid and late career stages, by contrast, we argue that different career episodes along the life course are likely to lead to several transitions that may include career renewal. Specifically, some, or a complete reorganization, of one's time among different life domains

characterizes career renewal, which is based on questioning one's life priorities and place of self. First, career renewal implies questioning the role of one's work in one's life compared to other life spheres (Power, 2009). In particular, previous research reported that the need to reorganize one's personal (e.g., family) and career priorities represented one of the specific aspects of career renewal (Bejian & Salomone, 1995). Put differently, questions about one's personal and vocational life and what goals to pursue in the future lie at the core of the career renewal process (Riverin-Simard, 1988). Second, career renewal implies the need for individuals to reinvent their worker role (Wang et al., 2013). Indeed, self-appraisal has been suggested to be one of the specific aspects of career renewal (Bejian & Salomone, 1995). For instance, readjustments in one's personality may be necessary (Power, 2009). Beyond the review by Wang et al. (2013), existing literature on career renewal is largely outdated, the most recent contribution being the review by Power (2009). Indeed, although career renewal has been reported to occur between the ages of 35 and 45 (Murphy & Burck, 1976; Williams & Savickas, 1990), we argue that it may concern workers of all ages making career transitions in their early, mid, or late careers.

*Address identity questions.* Workers might increasingly feel uncertain and insignificant in today's ambiguous and unstable world (Savickas et al., 2009). Workers today, and older workers in particular, search for meaning and are only able to find that if they are able to find their own answers to their identity questions. These questions are: Who am I? Who do I want to become? What is important to me in the work role? Whereas traditional career paths provided a sense of stability and predictability for employees, today's careers decreasingly meet these needs. It is therefore increasingly important to create stability within oneself in order to be able to successfully function in today's changing work environment (Hartung & Taber, 2013). In particular, meaning derived from work activities has been suggested to represent identity-affirming activities (Rosso, Dekas, & Wrzesniewski, 2010).

Thus, the more central older workers perceive work to be compared with other life domains, the stronger the psychological identification with work. As the work domain takes an increasing importance in individuals' lives, individuals may identify at the personal level with some key significant characteristics of their work context (e.g., curiosity or intellectual challenge), which may lead to clearer self-conceptions and self-understanding (Rosso et al., 2010). As building a subjective career has been related to building a *self* (Savickas, 2011), identity has been considered in the life design approach as a fundamental resource for lifelong career development (Pouyaud, 2015), from the school-to-work transition (Masdonati & Fournier, 2015) to the transition from work to retirement (Froidevaux, 2018).

*Acquire career meta-competencies.* The earlier described changes in the career contract between employees and their employing organizations are subsumed under the concept of the *new career contract* (Hall & Mirvis, 1995). The new career contract describes the shift from the organizationally driven career to the employee-driven career. The employee-driven career requires new meta-competencies of the employee: adaptability, identity awareness, and self-learning. It has been argued that the acquirement and development of these meta-competencies is very important for older workers particularly, especially because they've often spent a large part of their career developing organization-based identities and job-specific skills (Greenhaus et al., 2010). Although it is commonly believed that older workers are less motivated to participate in career development activities, recent research has shown that this is not necessarily the case (Ng & Feldman, 2012). However, research has showed that older workers generally receive less support from supervisors and coworkers to participate in career development activities (Posthuma & Campion, 2008). Furthermore, they often have less access to organizational career support programs. It is therefore of increasing importance for older workers autonomously to take their careers in their own hands and engage in lifelong learning and proactive career

management in order to make use of their full potential. If older workers successfully update their skills accordingly, today's more individualized and horizontal careers might be well-suited for older workers, given their potentially reduced external constraints (e.g., having to pay for children's education) and often reduced career ambitions (e.g., the desire to become a senior level executive; Wang et al., 2013).

*Proactive career management.* To successfully grow in today's work environment and facilitate a positive meaning of work, the proactive management of one's career is of increasing importance. A special emphasis is placed on the current and future person–job fit in order to enable a sustainable career (Kooij, 2015). Optimal person–job fit can be achieved by proactive career planning and skill development, increasing social resources by building a strong network, or job crafting (Kooij, Tims, & Kanfer, 2015). Job crafting is a redesigning of one's job in order to foster job satisfaction, and involves shaping physical or cognitive task boundaries of the job, the relational boundaries of the job, or both (Wrzesniewski & Dutton, 2001), and is a powerful tool to achieve a better fit between the need for a meaningful job and the job's supply for meaning (Moghimi, Scheibe, Van Yperen, Pachana, & Thapa, 2015). There are three different forms of job crafting: physical, relational, and cognitive. Physical job crafting refers to changing the amount, scope, and type of tasks at work; relational job crafting refers to changing the interactions with supervisors, colleagues, or clients; and cognitive job crafting entails focusing on positive outcomes and reframing one's job as more meaningful (Moghimi et al., 2015). The notion of job crafting is in line with the notion of primary control in Heckhausen and Schulz' (1995) lifespan theory of control, and poses an important tool throughout the life course for workers. As employees reach higher ages, accommodative and utilization crafting are still relevant (Kooij et al., 2015). Accommodative crafting is job crafting that intends to regulate older age-related demands and changing supplies, whereas utilization crafting refers to the application of existing abilities and

knowledge unused to attain current goals. Workers of all ages, but aging employees especially (Kooij, 2015), should thus make use of these strategies in order to remain employable and develop in their workplaces. Last but not least, older workers should adjust their timing of retirement to meet lifestyle needs, seek reduced workload arrangement, or make use of telework, and make career decisions that accommodate their and their personal needs, circumstances, and preferences.

## **5.2. Organizational Career Developmental Issues**

*Provide flexible employment opportunities.* Flexible work arrangements, such as part-time work or telecommuting, may facilitate employees' work at all ages because it provides greater opportunity to balance work and family lives. For instance, providing such opportunities allows organizations to keep talented workers of all ages in the organization, who also need to take care of an elderly or ill parent, spouse, or (grand)children. Extended time in one job can produce negative job attitudes and feelings of stagnation (Greenhaus et al., 2010). Because of changing needs with age (e.g., higher importance of generativity, higher need for motive congruency and meaningful work), and generally declining motivation for hierarchical ascent later on in one's career, possibilities for horizontal job mobility are particularly important for older workers. In line with the generativity aspect, aging employees might also be better suited for jobs which require positive interactions, but less suited for jobs that involve negative interactions on an ongoing basis (Moghimi et al., 2015) because of their higher positivity maintenance orientation. Older people strive for positive and meaningful experiences, want to maintain positive relations with coworkers, and generally try to avoid negative experiences (Charles, 2010). Thus, it would be beneficial for organizations to find appropriate work environments for late career employees in which they can make use of their specific skills and strengths, and enable them to balance out possible age-related declines in higher age. Such positions can include mediator, consultant, or

conciliator tasks. These functions could also be exercised part-time or alongside the usual tasks to facilitate a more positive and fulfilling meaning of work for late career employees, and increase work meaningfulness.

*Broaden the reward system.* Because motivations and values regarding work change with age, organizations need to broaden their reward system to be in line with the changing needs of workers. Overall, such rewards can entail interesting and challenging jobs, a stimulating work environment and reassignments, and recognition and support (Greenhaus et al., 2010). Flexible work arrangements, sabbaticals, and bridge employment beyond retirement age can constitute alternative rewards. Another way to reward mid-career and older employees can be to allow them taking on roles of mentors and teachers because such employees often have high levels of accumulated knowledge and work experience, and are increasingly consensus oriented (Dik, Byrne, & Steger, 2013)—thus, they are well suited for these kinds of assignments. Further, such practices allow organizations to foster employees' feeling of appreciation and recognition.

*Raise awareness about age specific strengths of an age-diverse workforce.* To increase positive relations between age groups, organizations should rather highlight the specific strengths of each group. This would allow changing the focus from difference to complementarity between groups. For instance, research has shown that although younger workers possessed, on average, greater extraversion, sociability, and openness to novel experiences, older workers demonstrated, on average, more conscientiousness, positive emotions, and emotional stability (Truxillo et al., 2015). Furthermore, because older workers have had a predominant role in the organization or field over the last decade, it is critical for employers to take advantage of their talent through employees development measures, emphasizing their assets and potentials (Van Dalen, Henkens, & Wang, 2014). Thus, organizations should create opportunities for older workers to maintain and update their

skills. Technologically advanced work environments especially provide benefits for cognitive health, and can compensate age-related declines or disabilities (Charness, Boot, & Czaja, 2015). Indeed, younger workers represent interesting sources of such technology knowledge. Therefore, organizations would gain from developing mentoring programs in which both younger and older workers would transfer important knowledge to each other, depending on their specific strengths (Burmeister & Deller, 2016).

*Promote generative opportunities.* It has been recently demonstrated that different meanings of work played an important role in the career decisions of older workers (Fasbender, Wang, Voltmer, & Deller, 2015). Whereas social, personal, and financial meaning explained the motivation of working post-retirement, the authors found a negative relationship between the generative meaning of work and post-retirement employment intentions (Fasbender et al., 2015). This finding can be an important sign that for older workers who have a higher need for generativity, if workplaces cannot provide this kind of meaning for them, they are more likely to disengage from work and rather choose to be engaged in family and volunteering activities. Organizations and management should therefore give older workers more opportunity to derive generative meaning from their work, teach mentoring skills, and provide opportunities to use these skills. This way, organizations can satisfy generativity needs of older employees and additionally ensure that valuable knowledge remains in the company and is passed on to succeeding generations of workers.

*Prevent age stereotyping and discrimination.* Another important intervention for management and organizations is to prevent stereotyping targeting a specific age category. Age discrimination of older workers may begin earlier than one may think. Indeed, the U.S. Age Discrimination Act condemns discrimination toward employees aged beyond 40 years old. Previous research notably reported that older workers who perceive such discrimination against their group are more likely to feel work stress and have less motivation at work

(Maertens et al., 2012). This is problematic because optimal work experiences are viewed today as including sustainability and intrinsic motivation. If older workers perceive negative stereotyping against their group, they can lose such intrinsic motivation (for reviews, see Kanfer & Ackerman, 2004; Kanfer, Beier, & Ackerman, 2013). Further, stereotyping withdraws older workers from their sense of meaning at work. A frank and open discussion about age stereotypes in organizations would therefore be important (Ng & Feldman, 2012). As stereotypes partially originate from the lack of contact with older people (Fasbender & Wang, 2017), increasing the opportunities for younger employees to work alongside older employees could help to reduce the prevalence and degree of negative stereotyping (Falkenberg, 1990).

## **6. Conclusion**

The current chapter intends to make a contribution to a better understanding of career development over the lifespan by examining individual and contextual factors contributing to life-long career development.

Because needs and priorities of workers change over their life course, and are also influenced by contextual factors, it is important to examine and describe these changes, even more so because the workforce is aging and older workers represent a steadily growing proportion of today's workforce. Workers today require intrinsically motivating work that meets their values, significant relationships with coworkers, and fulfillment of their emotional needs through work, throughout their whole lifespan, and put general emphasis on subjective career success. As subjective career success is strongly based on a sense of purpose and meaning, we argue that the following areas constitute important areas for career development over the lifespan: To consider career renewal as an opportunity for personal and professional growth throughout one's career, address identity questions, and proactively

manage one's career. Furthermore, organizations can support the career development of their employees in a number of ways: Through providing flexible employment opportunities, broadening of the reward system according to the changing needs of their workers, raising awareness about age specific strengths of an age-diverse workforce, preventing age stereotyping and discrimination and promoting generative opportunities amongst their employees. This way, as careers progress throughout the lifespan, it doesn't have to be about climbing up the ladder followed by decline and withdrawal, but can be a thorough optimization and customization according to one's individual circumstances and preferences, enabling and promoting a sustainable, successful and satisfying career throughout the lifespan.

In closing, we want to address some limitations of our chapter. We have reviewed some of the most prominent factors that create change in careers over the life course, as discussed in the current literature. However, our review is not exhaustive and necessarily subjective. Other factors (e.g., changing social relationships, important life events or other transitions) that we have not reviewed here also play a role in explaining how and why careers change over the lifespan. Similarly, we have provided a list of important career developmental issues throughout the career without being able to claim that this list is exhaustive. Other important aspects can emerge (e.g., the need to integrate work and non-work areas of life) that we have not addressed here.

Despite these limitations, we believe that bringing the topic of lifelong career development to the attention of researchers and practitioners is important. Individuals and organizations should bear these changes throughout the lifespan and in the context of today's workplaces in mind and act accordingly, in order to facilitate and enable successful careers.

## 7. Literature

- Arthur, M. B., Khapova, S. N., & Wilderom, C. P. (2005). Career success in a boundaryless career world. *Journal of Organizational Behavior*, 26(2), 177–202. doi:<http://dx.doi.org/10.1002/job.290>
- Bal, P. M. (2015). Age and the psychological contract. In N. A. Pachana (Ed.), *Encyclopedia of geropsychology*. Singapore: Springer Science+Business Media.
- Baltes, P. B., & Baltes, M. M. (1990). *Successful aging: Perspectives from the behavioral sciences* (Vol. 1). Cambridge, UK: Cambridge University Press.
- Bejian, D. V., & Salomone, P. R. (1995). Understanding midlife career renewal: Implications for counseling. *The Career Development Quarterly*, 44(1), 52–63. doi:<http://dx.doi.org/10.1002/j.2161-0045.1995.tb00528.x>
- Blustein, D. L. (2011). A relational theory of working. *Journal of Vocational Behavior*, 79(1), 1–17. doi:<http://dx.doi.org/10.1016/j.jvb.2010.10.004>
- Briscoe, J. P., Hall, D. T., & DeMuth, R. L. F. (2006). Protean and boundaryless careers: An empirical exploration. *Journal of Vocational Behavior*, 69(1), 30–47. doi:<http://dx.doi.org/10.1016/j.jvb.2005.09.003>
- Burmeister, A., & Deller, J. (2016). Knowledge retention from older and retiring workers: What do we know, and where do we go from here? *Work, Aging and Retirement*, 2(2), 87–104. doi:<https://doi.org/10.1093/workar/waw002>
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54(3), 165–181. doi:<http://dx.doi.org/10.1037/0003-066X.54.3.165>
- Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology*, 56(1), 453–484. doi:<http://dx.doi.org/10.1146/annurev.psych.55.090902.141913>

- Charles, S. T. (2010). Strength and vulnerability integration: A model of emotional well-being across adulthood. *Psychological Bulletin*, *136*(6), 1068–1091.  
doi:<http://dx.doi.org/10.1037/a0021232>
- Charness, N., Boot, W. R., & Czaja, S. j. (2015). Technology and older workers. In N. A. Pachana (Ed.), *Encyclopedia of Geropsychology*. Singapore: Springer Science +Business Media.
- Craik, F. I., & Bialystok, E. (2006). Cognition through the lifespan: Mechanisms of change. *Trends in cognitive sciences*, *10*(3), 131–138.  
doi:<http://dx.doi.org/0.1016/j.tics.2006.01.007>
- de Lange, A. H., Van Yperen, N. W., Van der Heijden, B. I., & Bal, P. M. (2010). Dominant achievement goals of older workers and their relationship with motivation-related outcomes. *Journal of Vocational Behavior*, *77*(1), 118–125.  
doi:<http://dx.doi.org/10.1016/j.jvb.2010.02.013>
- Dik, B. J., Byrne, Z. S., & Steger, M. F. (2013). *Purpose and meaning in the workplace*. Washington, DC: American Psychological Association.
- DiRenzo, M. S., & Greenhaus, J. H. (2011). Job search and voluntary turnover in a boundaryless world: A control theory perspective. *Academy of Management Journal*, *36*(3), 567–589. doi:<http://dx.doi.org/10.5465/AMR.2011.61031812>
- Falkenberg, L. (1990). Improving the accuracy of stereotypes within the workplace. *Journal of Management*, *16*(1), 107–118. doi:<http://dx.doi.org/10.1177/014920639001600108>
- Fasbender, U., Deller, J., Wang, M., & Wiernik, B. M. (2014). Deciding whether to work after retirement: The role of the psychological experience of aging. *Journal of Vocational Behavior*, *84*(3), 215–224. doi:<http://dx.doi.org/10.1016/j.jvb.2014.01.006>

- Fasbender, U., & Wang, M. (2017). Intergenerational contact and hiring decisions about older workers. *Journal of Managerial Psychology*, 32(3), 210–224.  
doi:<https://doi.org/10.1108/JMP-11-2016-0339>
- Fasbender, U., Wang, M., Voltmer, J.-B., & Deller, J. (2015). The meaning of work for post-retirement employment decisions. *Work, Aging and Retirement*.  
doi:<http://dx.doi.org/10.1093/workar/wav015>
- Feldman, D. C. (1989). Careers in organizations: Recent trends and future directions. *Journal of Management*, 15(2), 135–156. doi:<http://dx.doi.org/10.1177/014920638901500202>
- Froidevaux, A. (2018). A life design perspective on the work to retirement transition. In V. Cohen-Scali, J. Rossier, & L. Nota (Eds.), *New perspectives on career counseling and guidance in Europe* (pp. 89–104). Cham, Switzerland: Springer.
- Froidevaux, A., & Hirschi, A. (2015). Managing the transition to retirement: From meaningful work to meaning in life at retirement. In A. De Vos & B. I. J. M. Van der Heijden (Eds.), *Handbook of research on sustainable careers: Aims, approach and outline*. (pp. 350–363). Cheltenham: Edward Elgar Publishing.
- Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2010). *Career Management* (4 ed. Vol. 4). Los Angeles, CA: Sage Publications Inc.
- Greenhaus, J. H., & Kossek, E. E. (2014). The contemporary career: A work–home perspective. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 361–388. doi:<http://dx.doi.org/10.1146/annurev-orgpsych-031413-091324>
- Griffin, B., Hesketh, B., & Loh, V. (2012). The influence of subjective life expectancy on retirement transition and planning: A longitudinal study. *Journal of Vocational Behavior*, 81(2), 129–137. doi:<https://doi.org/10.1016/j.jvb.2012.05.005>

- Hall, D. T. (2004). The protean career: A quarter-century journey. *Journal of Vocational Behavior*, 65(1), 1–13. doi:<http://dx.doi.org/10.1016/j.jvb.2003.10.006>
- Hall, D. T., & Mirvis, P. H. (1995). The new career contract: Developing the whole person at midlife and beyond. *Journal of Vocational Behavior*, 47(3), 269–289.  
doi:<http://dx.doi.org/10.1006/jvbe.1995.0004>
- Hammer, L. B., Allen, E., & Grigsby, T. D. (1997). Work–family conflict in dual-earner couples: Within-individual and crossover effects of work and family. *Journal of Vocational Behavior*, 50(2), 185–203. doi:<http://dx.doi.org/10.1006/jvbe.1996.1557>
- Hartung, P. J., & Taber, B. J. (2013). Career construction: Heeding the call of the heart. In B. J. Dik, Z. S. Byrne, & M. F. Steger (Eds.), *Purpose and meaning in the workplace* (pp. 17–36). Washington, DC, US: American Psychological Association.
- Heckhausen, J., & Schulz, R. (1995). A life-span theory of control. *Psychological Review*, 102(2), 284–304. doi:<http://dx.doi.org/10.1037/0033-295X.102.2.284>
- Inglehart, R. (1997). *Modernization and postmodernization: Cultural, economic, and political change in 43 societies* (Vol. 19). Cambridge, UK: Cambridge University Press.
- Inkson, K. (2006). Protean and boundaryless careers as metaphors. *Journal of Vocational Behavior*, 69(1), 48–63. doi:<http://dx.doi.org/10.1016/j.jvb.2005.09.004>
- Jin, J., & Rounds, J. (2012). Stability and change in work values: A meta-analysis of longitudinal studies. *Journal of Vocational Behavior*, 80(2), 326–339.  
doi:<http://dx.doi.org/10.1016/j.jvb.2011.10.007>
- Kanfer, R., & Ackerman, P. L. (2004). Aging, adult development, and work motivation. *Academy of Management Review*, 29(3), 440–458.  
doi:<http://dx.doi.org/10.2307/20159053>

- Kanfer, R., Beier, M. E., & Ackerman, P. L. (2013). Goals and motivation related to work in later adulthood: An organizing framework. *European Journal of Work and Organizational Psychology, 22*(3), 253–264.  
doi:<http://dx.doi.org/10.1080/1359432X.2012.734298>
- Kay, J. S., & Heckhausen, J. (2015). Motivational theory of lifespan development. In N. A. Pachana (Ed.), *Encyclopedia of Geropsychology*. Singapore: Springer Science+Business.
- Kooij, D. T. (2015). Successful aging at work: The active role of employees. *Work, Aging and Retirement, 1*(4), 309–319. doi:<http://dx.doi.org/10.1093/workar/wav018>
- Kooij, D. T., De Lange, A. H., Jansen, P. G., Kanfer, R., & Dikkers, J. S. (2011). Age and work-related motives: Results of a meta-analysis. *Journal of Organizational Behavior, 32*(2), 197–225. doi:<http://dx.doi.org/10.1002/job.665>
- Kooij, D. T., Tims, M., & Kanfer, R. (2015). Successful aging at work: The role of job crafting. In M. P. Bal, D. T. A. M. Kooij, & D. M. Rousseau (Eds.), *Aging workers and the employee-employer relationship* (pp. 145–161): Springer International Publishing.
- Kotter-Gruehn, D., Kornadt, A. E., & Stephan, Y. (2016). Looking beyond chronological age: Current knowledge and future directions in the study of subjective age. *Gerontology, 62*(1), 86–93. doi:<http://dx.doi.org/10.1159/000438671>
- Kunze, F., Raes, A. M., & Bruch, H. (2015). It matters how old you feel: Antecedents and performance consequences of average relative subjective age in organizations. *Journal of Applied Psychology, 100*(5), 1511–1526.  
doi:<http://dx.doi.org/10.1037/a0038909>
- Lawrence, B. S. (1984). Age grading: The implicit organizational timetable. *Journal of Organizational Behavior, 5*(1), 23–35. doi:<http://dx.doi.org/10.1002/job.4030050104>

- Levinson, Darrow, C. N., & Klein, E. B. (1978). *The seasons of a man's life*. New York, NY: The Random House Publishing Group Inc.
- Levinson, D. J. (1986). A conception of adult development. *American Psychologist*, *41*(1), 3–13. doi:<http://dx.doi.org/10.1037/0003-066X.41.1.3>
- Lockenhoff, C. E., & Carstensen, L. L. (2004). Socioemotional selectivity theory, aging, and health: The increasingly delicate balance between regulating emotions and making tough choices. *Journal of Personality*, *72*(6), 1395–1424. doi:<http://dx.doi.org/10.1111/j.1467-6494.2004.00301.x>
- Maertens, J., Putter, S., Chen, P., Diehl, M., Huang, E., Hedge, J., & Borman, W. (2012). Physical capabilities and occupational health of older workers. In J. W. Hedge & W. C. Borman (Eds.), *The Oxford handbook of work and aging* (pp. 215–235). New York, NY: Oxford University Press.
- Masdonati, J., & Fournier, G. (2015). Life design, young adults, and the school-to-work transition. In L. Nota & J. Rossier (Eds.), *Handbook of life design: From practice to theory and, from theory to practice* (pp. 117–134): Hogrefe.
- McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review*, *96*(4), 690–702. doi:<http://dx.doi.org/10.1037/0033-295X.96.4.690>
- Moghimi, D., Scheibe, S., Van Yperen, N. W., & Thapa, N. (2015). Job Crafting in Aging Employees. In N. A. Pachana (Ed.), *Encyclopedia of Geropsychology*. Singapore: Springer Science+Business Media.
- Mortimer, J. T., & Lorence, J. (1979). Occupational experience and the self-concept: A longitudinal study. *Social Psychology Quarterly*, 307–323. doi:<http://dx.doi.org/10.2307/3033802>

- Murphy, P. P., & Burck, H. D. (1976). Career development of men at mid-life. *Journal of Vocational Behavior*, 9(3), 337–343. doi:[https://doi.org/10.1016/0001-8791\(76\)90061-0](https://doi.org/10.1016/0001-8791(76)90061-0)
- Nelson, E. A., & Dannefer, D. (1992). Aged heterogeneity: Fact or fiction? The fate of diversity in gerontological research. *The Gerontologist*, 32(1), 17–23. doi:<http://dx.doi.org/10.1093/geront/32.1.17>
- Neugarten, B. L., & Neugarten, D. A. (1986). Changing meanings of age in the aging society. In A. Pifer & E. Bronte (Eds.), *Our aging society: Paradox and promise* (pp. 33–51): W. W. Norton, NY.
- Newman, K. L. (2011). Sustainable careers. *Organizational Dynamics*, 40, 136–143. doi:<http://dx.doi.org/10.1016/j.orgdyn.2011.01.008>
- Ng, T. W., & Feldman, D. C. (2008). The relationship of age to ten dimensions of job performance. *Journal of Applied Psychology*, 93(2), 392–423. doi:<http://dx.doi.org/10.1037/0021-9010.93.2.392>
- Ng, T. W., & Feldman, D. C. (2010). The relationship of age with job attitudes: A meta-analysis. *Personnel Psychology*, 63, 677–718. doi:<http://dx.doi.org/10.1111/j.1744-6570.2010.01184.x>
- Ng, T. W., & Feldman, D. C. (2012). Aging and participation in career development activities. In J. Hedge & W. Borman (Eds.), *The Oxford handbook of work and aging* (pp. 137–150). Oxford: Oxford University Press.
- Ng, T. W., & Feldman, D. C. (2012). Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology*, 65, 821–858. doi:<http://dx.doi.org/10.1111/peps.12003>

- Nord, W. R., Brief, A., Atieh, J., & Doherty, E. (1988). Work values and the conduct of organizational behavior. In B. M. Staw & L. L. Cummings (Eds.), *Research in Organizational Behavior* (Vol. 10, pp. 1–42). Greenwich, CT: JAI Press.
- Ornstein, S., Cron, W. L., & Slocum, J. W. J. (1989). Life stage versus career stage: A comparative test of the theories of Levinson and Super. *Journal of Organizational Behavior*, *10*(2), 117–133. doi:<http://dx.doi.org/10.1002/job.4030100203>
- Posthuma, R. A., & Campion, M. A. (2008). Age stereotypes in the workplace: Common stereotypes, moderators, and future research directions. *Journal of Management*, *35*(1), 158–188. doi:<http://dx.doi.org/10.1177/0149206308318617>
- Pouyaud, J. (2015). Vocational trajectories and people's multiple identities: A life design. In L. Nota & J. Rossier (Eds.), *Handbook of life design: From practice to theory and from theory to practice* (pp. 59–74): Hogrefe.
- Power, S. J. (2009). Midcareer renewal: A research agenda for the twenty-first century. In S. G. Baugh & S. E. Sullivan (Eds.), *Maintaining focus, energy, and options over the career* (pp. 107–134). Charlotte, NC: IAP, Inc.
- Riverin-Simard, D. (1988). Phases of working life and adult education. *Lifelong Learning*, *12*(2), 24–39.
- Roberts, B. W., & Mroczek, D. (2008). Personality trait change in adulthood. *Current Directions in Psychological Science*, *17*(1), 31–35.  
doi:<http://dx.doi.org/10.1111/j.1467-8721.2008.00543.x>
- Robine, J. M., & Ritchie, K. (1991). Healthy life expectancy: Evaluation of global indicator of change in population health. *Bmj*, *302*(6774), 457–460.  
doi:<http://dx.doi.org/10.1136/bmj.302.6774.457>

- Rosso, B. D., Dekas, K. H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior*, 30, 91–127.  
doi:<http://dx.doi.org/10.1016/j.riob.2010.09.001>
- Rousseau, D. M. (1989). Psychological and implied contracts in organizations. *Employee Responsibilities and Rights Journal*, 2(2), 121–139.  
doi:<http://dx.doi.org/10.1007/BF01384942>
- Salthouse, T. A. (2006). Mental exercise and mental aging evaluating the validity of the “use it or lose it” hypothesis. *Perspectives on Psychological Science*, 1(1), 68–87.  
doi:<http://dx.doi.org/10.1111/j.1745-6916.2006.00005.x>
- Salthouse, T. A. (2012). Consequences of age-related cognitive declines. *Annual Review of Psychology*, 63, 201–226. doi:<https://doi.org/10.1146/annurev-psych-120710-100328>
- Savickas, M. L. (2011). *Career counseling*. Washington, DC: American Psychological Association.
- Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J.-P., Duarte, M. E., Guichard, J., . . . Van Vianen, A. E. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behavior*, 75(3), 239–250.  
doi:<http://dx.doi.org/10.1111/j.1556-6676.2012.00002.x>
- Scheibe, S., Wisse, B., & Schulz, A. (2015). Affect and emotion regulation in aging workers. In N. A. Pachana (Ed.), *Encyclopedia of geropsychology*. Singapore: Springer Science+Business Media.
- Schwall, A. R. (2012). Defining age and using age-relevant constructs. In J. Hedge & W. Borman (Eds.), *The Oxford handbook of work and aging* (pp. 169–186). Oxford: Oxford University Press.

- Schweitzer, S. T., Lyons, E. S., & Ng, L. (2014). Changing demographics and the shifting nature of careers. *Human Resource Management Review*, *16*, 86–94.  
doi:<http://dx.doi.org/10.1177/1534484314524201>
- Shanahan, M. J. (2000). Pathways to adulthood in changing societies: Variability and mechanisms in life course perspective. *Annual review of sociology*, *26*(1), 667–692.  
doi:<http://dx.doi.org/10.1146/annurev.soc.26.1.667>
- Sullivan, S. E. (1999). The changing nature of careers: A review and research agenda. *Journal of Management*, *25*(3), 457–484.  
doi:<http://dx.doi.org/10.1177/014920639902500308>
- Sullivan, S. E., & Arthur, M. B. (2006). The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behavior*, *69*(1), 19–29. doi:<http://dx.doi.org/10.1016/j.jvb.2005.09.001>
- Super, D. E. (1957). *The psychology of careers*: New York: Harper & Row.
- Super, D. E. (1990). A life-span, life-space approach to career development. *Journal of Vocational Behavior*, *16*(3), 282–298. doi:[http://dx.doi.org/10.1016/0001-8791\(80\)90056-1](http://dx.doi.org/10.1016/0001-8791(80)90056-1)
- Thielgen, M. M., Krumm, S., Rauschenbach, C., & Hertel, G. (2015). Older but wiser: Age moderates congruency effects between implicit and explicit motives on job satisfaction. *Motivation and Emotion*, *39*(2), 182–200.  
doi:<http://dx.doi.org/10.1007/s11031-014-9448-8>
- Truxillo, D. M., Cadiz, D. M., & Hammer, L. B. (2015). Supporting the aging workforce: A review and recommendations for workplace intervention research. *Annual Review of Organizational Psychology and Organizational Behavior*, *2*(1), 351–381.  
doi:<http://dx.doi.org/10.1146/annurev-orgpsych-032414-111435>

- Truxillo, D. M., Cadiz, D. M., Rineer, J. R., Zaniboni, S., & Fraccaroli, F. (2012). A lifespan perspective on job design: Fitting the job and the worker to promote job satisfaction, engagement, and performance. *Organizational Psychology Review*, 2(4), 340–360. doi:<http://dx.doi.org/10.1177/2041386612454043>
- Van Dalen, H. P., Henkens, K., & Wang, M. (2014). Recharging or retiring older workers? Uncovering the age-based strategies of European employers. *The Gerontologist*, 55(5), 814–824. doi:<https://doi.org/10.1093/geront/gnu048>
- Van der Heijden, B., Schalk, R., & Van Veldhoven, M. (2008). Ageing and careers: European research on long-term career development and early retirement. *Career Development International*, 13, 85–94. doi:<http://dx.doi.org/10.1108/13620430810860512>
- Wang, M., Olson, D. A., & Shultz, K. S. (2013). *Mid and late career issues: An integrative perspective*. New York, NY: Routledge, Taylor & Francis, LLC.
- Wehmeyer, M. L., Nota, L., Soresi, S., Shogren, K. A., Morningstar, M. E., Ferrari, L., . . . DiMaggio, I. (2018). A crisis in career development: Life designing and implications for transition. *Career Development and Transition for Exceptional Individuals*, 2165143417750092. doi:<https://doi.org/10.1177/2165143417750092>
- Wey Smola, K., & Sutton, C. D. (2002). Generational differences: Revisiting generational work values for the new millennium. *Journal of Organizational Behavior*, 23(4), 363–382. doi:<http://dx.doi.org/10.1002/job.147>
- Wille, B., Hofmans, J., Feys, M., & De Fruyt, F. (2014). Maturation of work attitudes: Correlated change with big five personality traits and reciprocal effects over 15 years. *Journal of Organizational Behavior*, 35(4), 507–529. doi:<http://dx.doi.org/10.1002/job.1905>

- Williams, C. P., & Savickas, M. L. (1990). Developmental tasks of career maintenance. *Journal of Vocational Behavior*, 36(2), 166–175. doi:[https://doi.org/10.1016/0001-8791\(90\)90024-V](https://doi.org/10.1016/0001-8791(90)90024-V)
- Williamson, G. M., & Christie, J. (2009). Aging well in the 21st century: Challenges and opportunities. In C. R. Snyder & S. J. Lopez (Eds.), *Oxford Handbook of Positive Psychology* (pp. 165–169). New York, NY: Oxford University Press, Inc.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26(2), 179–201. doi:<http://dx.doi.org/10.5465/Amr.2001.4378011>
- Zacher, H., & Rudolph, C. W. (2018). Just a mirage: On the incremental predictive validity of subjective age. *Work, Aging and Retirement*. doi:<https://doi.org/10.1093/workar/wax031>

Figure 1. A framework of career development over the lifespan.

	Sources of change	Career developmental issues
<b>Individual perspective</b>	<ul style="list-style-type: none"> <li>→ Personality</li> <li>→ Cognition</li> <li>→ Work values</li> <li>→ Job attitudes</li> <li>→ Goal setting and motivation</li> <li>→ Subjective age</li> </ul>	<ul style="list-style-type: none"> <li>→ Experience career renewal</li> <li>→ Address identity questions</li> <li>→ Acquire career meta-competencies</li> <li>→ Proactive career development</li> </ul>
<b>Organizational perspective</b>	<ul style="list-style-type: none"> <li>→ Psychological contract</li> <li>→ Social age norms</li> <li>→ Organizational age norms</li> </ul>	<ul style="list-style-type: none"> <li>→ Provide flexible employment opportunities</li> <li>→ Broaden the reward system</li> <li>→ Raise awareness about strengths of an age-diverse workforce</li> <li>→ Promote generative opportunities</li> <li>→ Prevent stereotyping and discrimination</li> </ul>