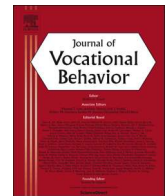


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# Is the future still open? The mediating role of occupational future time perspective in the effects of career adaptability and aging experience on late career planning

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## ABSTRACT

Much research has sought to understand how people construct their careers; however, only little is known about the career construction of older workers. To understand how people construct their careers in later life, we take a lifespan development perspective on career construction theory. Specifically, we propose and test a model in which we take a closer look at older workers' career adaptability and aging experience (i.e., physical loss, social loss, personal growth, and gaining self-knowledge) as relevant factors shaping their late career planning. Moreover, we explore whether these relationships are mediated by older workers' occupational future time perspective as an important underlying mechanism between adaptability resources (i.e., career adaptability), experiences (i.e., aging experience), and adapting responses (i.e., late career planning). We test our model with two-wave longitudinal data from a sample of older workers (aged 50 to 79) based in the United Kingdom. Results show that occupational future time perspective mediated the positive effects of career adaptability and personal growth, as well as the negative effect of physical loss on late career planning. Overall, our findings contribute to a better understanding of late career construction and offers practical implications for older workers to pursue activities that help them to successfully plan their late career.

## 1. Introduction

The labor force participation of older workers has substantially increased and is on a constant high level in several industrialized countries (Organization for Economic Cooperation and Development [OECD], 2018).<sup>1</sup> This participation goes even beyond retirement age,<sup>2</sup> particularly in some European countries, such as Germany and the UK, but also in countries such as Canada, Japan, and the US (OECD, 2018). The career construction of older workers is therefore no longer a niche topic but of interest for research and practice alike.

Much research has addressed how people construct their careers (Rudolph, Lavigne, & Zacher, 2017); however, only little is

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<sup>1</sup> Labor force participation rate in the EU28 in 2016 for men aged 50–54: 89.1%, 55–59: 80.6%, 60–64: 51.0%, 65–69: 15.9%; for women aged 50–54: 77.6%, 55–59: 66.8%, 60–64: 36.1%, 65–69: 9.1% (OECD, 2018).

<sup>2</sup> Retirement age in the EU28 is ranging between 61 and 67 for men, and 58 and 67 for women in 2017 (Finnish Centre for Pensions, 2018)

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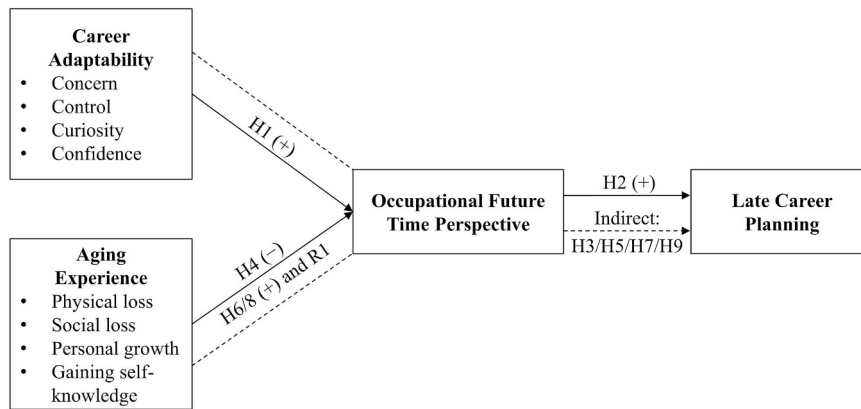


Fig. 1. Conceptual model of late career construction.

known about the career construction of older workers. In its core, career construction theory (CCT; Savickas, 2013) explains how people build their careers through both “personal constructivism and social constructionism” (p.147). In other words, it describes the interpretation of and adaptation to an environment. By reflecting upon their experiences, people compose a self and a career (Savickas, 2013). As an important psychosocial resource for the successful adaptation to the environment, career adaptability has received special attention in the literature. In their meta-analysis, Rudolph et al. (2017) revealed that career adaptability was positively related to adapting responses (e.g., career planning and career exploration) and adaptation results (career satisfaction, work performance, and engagement). Yet, relatively little is known about the career adaptability of older workers, as most studies are based on college and student samples or younger workers (Zacher & Griffin, 2015). This represents a significant blind spot in our understanding of career construction, not only because older workers form a substantial proportion of the workforce and are encouraged to remain on the job longer, even beyond traditional retirement age (Fasbender, Wang, Voltmer, & Deller, 2016; Wöhrmann, Fasbender, & Deller, 2016, 2017), but also for conceptual reasons: While younger workers find themselves at a stage of their careers more occupied with looking ahead into the future in order to explore and establish themselves in their careers (Super, 1980), the situation of older workers is more complex. Not only do they find themselves at career-stages traditionally associated with career decisions related to career maintenance, if not decline (Fasbender & Deller, 2017; Super, 1980), but they also are able to look back over an extended working life and reflect on the changes that they have encountered during this time.

Therefore, to understand how older workers construct their careers in later life, it is important to take the lifespan development perspective into account. According to CCT, people rely on their self-concept or identity to construct their career and make informed decisions (Del Corso & Rehfuß, 2011). Because people narrate their experience, certain patterns and themes emerge related to what their life and career goals are, how they hope to achieve these goals, and why these goals matter to them (Del Corso & Rehfuß, 2011). As people age, their interpretation of reality changes with the experience of age-related gains and losses. Specifically, older workers' aging experience – as an internal comparison of how life has changed over the years (Fasbender, Deller, Wang, & Wiernik, 2014) – is a central life experience forming the self and as such, is shaping their career construction.

We, thus, propose and test a model on late career construction in which we take a closer look at older workers' career adaptability and aging experience as relevant factors shaping their late career planning. Specifically, we explore whether these relationships will be mediated by older workers' occupational future time perspective (OFTP) as an underlying mechanism of late career construction. OFTP describes older workers' beliefs about their time and opportunities left until they retire (Rudolph, Kooij, Rauvola, & Zacher, 2018; Zacher & Frese, 2009). Specifically, we argue that older workers' career adaptability and aging experience determine how they interpret their OFTP, which in turn impacts their late career planning. Our conceptual model of late career construction is presented in Fig. 1.

Overall, we aim at contributing to the literature on career construction in three meaningful ways. First, we combine CCT with a lifespan development perspective. It is important to consider older workers' advanced stage in their career and the experiences that they have gained in the past, which in turn will likely impact their future career construction – a perspective that is well in line with CCT but that has as of now not been addressed empirically. Specifically, we distinguish four sub dimensions of aging experience – namely, physical loss, social loss, personal growth, and gaining self-knowledge – and explain their differential effects on older workers' career construction. In other words, our model does on a conceptual level what Stumpf, Colarelli, and Hartman (1983, p. 220) advised career decision makers to do for their personal careers, namely to “reflect on how my past integrates with my future career”.

Second, we extend CCT by specifying OFTP as an important underlying mechanism between adaptability resources (i.e., career adaptability), experiences (i.e., aging experience), and adapting responses (i.e., late career planning). Also, we add to Dannefer's (1987) call for researching aging as intra-cohort differentiation. Thus, rather than simply assuming older workers' future career to be limited, as would have been suggested by traditional career stage models (Fasbender & Deller, 2017), our model accommodates the versatility and differences in how older workers come to perceive their future career options and elaborates on how these perceptions influence the degree to which older workers actively construct their future careers.

Third, we acknowledge the changing work environment and political reality driven by extending working lives in many industrialized countries. In the UK, for example, the removal of the Default Retirement Age in 2011 has opened new ways of career construction for older workers because their OFTP is no longer defined by a certain (mandatory retirement) age. Therewith, individual late career and retirement planning has become possible and is even necessary for older workers. By using two-wave longitudinal data from a sample of 800 older workers based in the UK, we aim at capturing this new political reality that makes career construction for older workers indispensable.

## 2. Theoretical background

### 2.1. Late career planning

CCT (Savickas, 2005, 2013) helps to understand what people prefer to do and how they make vocational choices and cope with vocational tasks, occupational transitions, and work traumas. With increasing age, the transition to retirement becomes more imminent for older workers. Yet, retirement – often defined by the receipt of pension or social security benefits – is not necessarily the end of one's working life but rather a late career development stage in which people may decide to seek some form of work-related activities (i.e., post-retirement employment / bridge employment; Fasbender & Deller, 2017). Therefore, *late career planning* becomes an important undertaking for maintaining a successful and satisfying working life. Typical late career planning activities include making future plans and validating those by discussing with relevant others (e.g., colleagues or supervisor, family and friends) regarding one's late career intentions (Wöhrmann, Deller, & Wang, 2013). Meta-analytical evidence suggests that career planning is essential for both objective (e.g., salary) and subjective career success (e.g., career satisfaction; Ng, Eby, Sorensen, & Feldman, 2005). A better understanding of predictors and the underlying mechanisms of late career planning is therefore relevant for older workers to successfully construct their careers in later life.

### 2.2. Career adaptability, occupational future time perspective, and late career planning

Career adaptability is “a psychosocial resource for managing career-related tasks, transitions, and traumas” important for career adaptation and success (Hirschi, Herrmann, & Keller, 2015; Rudolph et al., 2017, p. 17; Savickas, 2013). More specifically, it denotes the degree to which people feel both innately curious but also responsible for, in control of, and confident about managing their own careers (Savickas, 2013). Both from a career construction and from a lifespan development perspective, it is likely that higher levels of career adaptability are most important during phases of transition. Yet, past research has largely focused on career adaptability among students, younger workers, and workers facing unemployment (e.g., Douglass & Duffy, 2015; Hirschi et al., 2015; Merino-Tejedor, Hontangas, & Boada-Grau, 2016). Research on older workers, whose most imminent transition may be the question on whether and when to retire or how to handle the time subsequent to their official retirement age, is scarce, however (Rudolph, 2016; Rudolph et al., 2017).

Based on CCT, we argue that career adaptability supports older workers in planning their late career, as meta-analytic results showed that career adaptability is in general positively related to career planning (Rudolph et al., 2017). Building on previous research, we shed light on the underlying mechanism that may explain why older workers' career adaptability may shape their late career planning. Specifically, we introduce OFTP as a potential mediator. OFTP describes older workers' belief about how much time they have left to work and how they perceive that time in terms of their remaining opportunities (Rudolph et al., 2018; Zacher & Frese, 2009). The concept has been derived from the general approach of future time perspective, which is conceptualized as an age-related, flexible, and cognitive-motivational construct that changes over time (Carstensen, 2006; Cate & John, 2007; Zacher & Frese, 2009). Career adaptability is likely to extend older workers' beliefs about their remaining future time at work because it serves as psychosocial resource for managing career-related tasks and transitions providing a sense of confidence and control about one's occupational future, as well as stimulating their curiosity for further options that their careers may still have to offer. We thus assume that older workers' career adaptability shapes their OFTP.

In turn, we argue that older workers' OFTP drives their late career planning. When older workers perceive their occupational time as endless with many opportunities awaiting them, they are likely to pursue activities that help them to plan their late career even beyond formal retirement (i.e., with receiving a pension; Shultz & Wang, 2011). In fact, previous research revealed that employees' (occupational) future time perspective was negatively related to their intention to retire (Bal et al., 2015), but positively related to their motivation to continue working (Akkermans et al., 2016; Zacher & Yang, 2016), their career commitment (Park & Jung, 2015) and their career-related networking (Treadway, Breland, Adams, Duke, & Williams, 2010). Thus, it is not implausible to assume that older workers' OFTP drives them to engage in late career planning. As a consequence, we assume an indirect relationship between career adaptability and late career planning through higher levels of OFTP. To sum up, we hypothesize:

**Hypothesis 1.** Career adaptability is positively related to OFTP.

**Hypothesis 2.** OFTP is positively related to late career planning.

**Hypothesis 3.** There is a positive relationship between career adaptability and late career planning, which is mediated by OFTP.

### 2.3. Aging experience, occupational future time perspective, and late career planning

Older workers' OFTP and their resulting career planning will not only be a function of their career adaptability, however. Rather, CCT argues that people construct their future careers in the context of their own past experiences and their interpretations of this past. This will be particularly relevant for older workers who typically have already had an extended work history that shaped their understanding of themselves. Thus, older workers' aging experience (i.e., the internal comparison of how life has changed during the ongoing aging process; Fasbender et al., 2014) is of particular relevance to predicting their OFTP. When people get older, they experience both gains and losses, whereby losses are expected to outweigh gains across the life course (Baltes, 1987; Baltes, Reese, & Lipsitt, 1980; Heckhausen, Dixon, & Baltes, 1989). Losses refer to the experience of negative changes such as *physical loss* and *social loss*, whereas gains refer to the experience of positive changes over the lifespan such as *personal growth* and *gaining self-knowledge* (Fasbender et al., 2014; Wurm, Tesch-Römer, & Tomasik, 2007).

In contrast to attitudes toward aging (e.g., Laidlaw, Power, & Schmidt, 2007), which refer more general to people's attitude and understanding of aging, aging experience captures how individuals personally experience getting older. Previous research has often relied on subjective age (i.e. "how old do you feel?") as a proxy for aging experience, confining researchers' ability to comprehensively assess what it personally means to grow older for individuals and how this experience can shape their future career. Even though researchers have implicitly assumed that people's aging experience is related to their OFTP (e.g., Henry, Zacher, & Desmette, 2017; Zacher, 2013; Zacher & Frese, 2009), it has not been explicitly theorized nor empirically tested. Building on previous research (e.g., Dittmann-Kohli et al., 1997; Fasbender et al., 2014; Steverink, Westerhof, Bode, & Dittmann-Kohli, 2001; Wurm et al., 2007), we investigate four dimensions of aging experience more closely, namely physical loss, social loss, personal growth, and gaining self-knowledge.

#### 2.3.1. Physical loss

Physical loss refers to the experience of negative changes over the lifespan associated with lower levels of fitness and energy, decreasing physical abilities as well as difficulties in coping with physical demands (Steverink et al., 2001). The experience of such loss may lead people to think that they cannot take on as much as before, which likely lowers their OFTP, and thus the degree to which they will actively plan their late career. Physical loss co-varies with lower levels of health (Steverink et al., 2001; Wurm et al., 2007). Health in turn has been found to be positively associated with a focus on remaining time and opportunities (e.g., Bal, Jansen, van der Velde, de Lange, & Rousseau, 2010; Kooij & Van De Voorde, 2011; Zacher & Frese, 2009), as well as with the plan to remain in the workforce; for example, it was found to postpone older workers' desired retirement age (Wöhrmann et al., 2017). Therefore, it is plausible to assume that physical loss will be negatively related to older workers' OFTP and thus, indirectly, to their late career planning.

**Hypothesis 4.** Physical loss is negatively related to OFTP.

**Hypothesis 5.** There is a negative relationship between physical loss and late career planning, which is mediated by OFTP.

#### 2.3.2. Social loss

Social loss refers to the experience of negative changes over the lifespan associated with a decline of social contacts, loneliness, and feelings of being less needed (Fasbender et al., 2014; Steverink et al., 2001). Even though social loss describes aging-related negative changes, we argue that people who perceive a decline in social contact and feelings of being less needed strive to compensate for such losses by engaging in activities that enable them to increase their social contact and recognition, and thus expand their perceived occupational future time. Continuing working may help older workers suffering from social loss to overcome their loneliness and fight the decline in social contacts because work offers networks, social support and embeddedness within the organization. In fact, employment was found to be positively linked to social support by supervisors, colleagues, or even customers (Aquino, Russell, Cutrona, & Altmaier, 1996). The social benefits of continuing working has also been highlighted by other scholars (Fasbender et al., 2016; Forbes, Spence, Wuthrich, & Rapee, 2015). Notably, research revealed that older workers experiencing social loss were 1.80 times more likely to engage in post-retirement employment twelve years later (Fasbender et al., 2014). It is therefore conceivable that social loss will be positively related to OFTP, and indirectly to late career planning.

**Hypothesis 6.** Social loss is positively related to OFTP.

**Hypothesis 7.** There is a positive relationship between social loss and late career planning, which is mediated by OFTP.

#### 2.3.3. Personal growth

Personal growth refers to the experience of positive changes over the lifespan associated with learning new skills, improving capabilities, and increasing levels of self-worth (Wurm et al., 2007). Personal growth describes an optimistic and future-oriented way of experiencing the aging process. It is likely that older workers who experience aging as personal growth focus on opportunities rather than on limitations, and thus also perceive their occupational future time as expansive. The workplace may offer opportunities for continued learning and development (Henry, Zacher, & Desmette, 2015), and provide a platform that meets the demands of those workers who experience aging as personal growth. Previous research found that personal growth was positively related to hope (Wurm et al., 2007) and working in post-retirement employment (Fasbender et al., 2014), thus supporting our expectation that personal growth will be positively related to OFTP, and indirectly, to late career planning.

**Hypothesis 8.** Personal growth is positively related to OFTP.

**Hypothesis 9.** There is a positive relationship between personal growth and late career planning, which is mediated by OFTP.

#### 2.3.4. Gaining self-knowledge

Lastly, gaining *self-knowledge* refers to the experience of positive changes over the lifespan, such as accumulating knowledge about oneself while getting older and being more relaxed about things. This means that people who experience aging as gaining self-knowledge start accepting their weaknesses or disabilities while embracing their strength or abilities. In general, accurate self-knowledge is regarded as a beneficial quality (Wilson & Dunn, 2004). From a career construction perspective, older workers' life-design and career construction is conditional upon their self-knowledge (Del Corso & Rehfuß, 2011; Savickas et al., 2009). On the one hand, gaining self-knowledge may lead people to know about the strength and abilities that they accumulated over the lifespan, which could help to them to develop their working lives and thus expand their OFTP. On the other hand, gaining self-knowledge can lead people to accept that in some aspects, they may not be as capable as they used to be when they were younger, suggesting that they should withdraw from production-related responsibilities and engage in other non-work activities within the scope of their current abilities. As a result, this may limit their perceived time and opportunities left at work. To date, little research exists about the role of gaining self-knowledge for older workers' career planning. Given that self-knowledge refers to a better understanding of one's strengths as well as one's weaknesses, we cannot derive a clear expectation about whether gaining self-knowledge will be positively or negatively related to OFTP. We thus, pose the following two related research questions.

*Research Question 1:* a) Is there a relationship between gaining self-knowledge and OFTP? b) If there is a relationship between gaining self-knowledge and OFTP, what is the direction?

### 3. Method

#### 3.1. Sample and procedure

We collected longitudinal data from a sample of older workers based in the UK. We used structured online questionnaires across two waves with a time lag of three months. The data has been collected with an established data collection company (i.e., Survey Sampling International) as part of a large research project. Participants were included if they were 50 years or older and currently employed for at least 20 h per week. Participants received a small incentive for their participation (£ 3.25). Overall, 827 people participated at Time 1. Of these, 27 “straight-liners” (i.e., participants who answered reverse coded items the same as normally coded items) were removed resulting in a sample size of 800 participants.

Of the participants, 586 people also participated at Time 2, resulting in a dropout of 26.8%. To assess possible attrition effects, we followed the suggestion from Goodman and Blum (1996) and investigated the presence of non-random sampling by regressing the study variables on the binary outcome that indicated whether participants took part in the second wave of data collection (“stayers”) or not (“leavers”). Results of a multiple logistic regression analysis revealed no effects of the control variables nor the study variables on participation at Time 2 except for career adaptability. However, this effect was not significant if the mediator OFTP was left out of the multiple regression analysis. To rule out any other concerns we investigated the mean differences of the “stayers” and “leavers” in career adaptability with a *t*-test for independent samples as well as differences in variance between the “stayers” and the whole sample as suggested by Goodman and Blum (1996). Neither test was significant ( $t(798) = -1.062, p = .29; \chi^2(585) = 556.44, p = .80$ ). Finally, we ran our study model with the Time 1 variables only for the “stayers” and “leavers” separately. The results pattern was the same except for the small negative effect of physical loss on OFTP which missed significance in the “leaver” group. However, as this effect is modeled for the whole group in the final study model, this should not affect any of the study results.

Participants' age ranged from 50 to 79 years ( $M = 57.13, SD = 5.22$ ). Of the participants, 360 (45.0%) were female and 304 (38.0%) held a university degree. Most participants were employed full-time (77.4%), and they worked on average 34.3 h per week ( $SD = 6.6$ ) in different industries ranging from consumer goods to technology, media and telecommunications. About one fifth of the participants (17.5%) worked in the public sector.

#### 3.2. Measures

The predictors (career adaptability and aging experience) were assessed at Time 1. We did not measure these variables at Time 2 to keep the overall length of the survey as short as possible because previous research has argued that lengthy surveys (with repetitive elements) can lead to boredom and careless responding of participants (Meade & Craig, 2012). The mediator (OFTP) and outcome (late career planning) variables were assessed at Time 1 (T1) and Time 2 (T2) because this allowed us to investigate the causal relationship between these two variables in more detail. All study variables were assessed with scales consisting of multiple items, and participants responded on seven-point Likert scales from 1 (*does not apply at all*) to 7 (*applies completely*). Our analyses including Cronbach's alphas (shown in Table 1) as well as series of confirmatory factor analyses confirm that the scales used in this study are of sufficient psychometric quality.

##### 3.2.1. Career adaptability

Career adaptability was measured with the Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012). The scale consists of four six-item subscales *concern, control, curiosity* and *confidence*. Each item begins with “My strengths are”. Example items are

**Table 1**  
Means, standard deviations, correlations, and reliabilities of study variables.

Variable	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Age	57.13	5.22	–															
2. Gender (1 = male)	0.55	0.50	0.09*	–														
3. Industry (1 = public sector)	0.18	0.38	–0.03	–0.07*	–													
4. Career adaptability T1	4.66	0.99	0.06	–0.05	0.00	(0.95)												
5. CA Concern T1	3.79	1.23	–0.05	–0.02	–0.04	0.81**	(0.86)											
6. CA Control T1	5.16	1.07	0.11**	–0.01	0.01	0.86**	0.53**	(0.90)										
7. CA Curiosity T1	4.56	1.21	0.04	–0.07*	0.04	0.90**	0.65**	0.68**	(0.91)									
8. CA Confidence T1	5.14	1.07	0.11**	–0.07*	–0.00	0.89**	0.54**	0.79**	0.75**	(0.91)								
9. Physical loss T1	4.22	1.16	0.09*	0.08*	0.03	–0.24**	–0.20**	–0.20**	–0.21**	–0.23**	(0.84)							
10. Social loss T1	3.23	1.28	–0.06	0.00	0.05	–0.31**	–0.36**	–0.25**	–0.31**	0.40**	–0.17**	(0.84)						
11. Personal growth T1	5.38	0.91	0.07*	–0.13**	–0.01	0.57**	–0.48**	0.46**	0.50**	0.53**	–0.36**	–0.36**	(0.82)					
12. Gaining self-knowledge T1	5.18	0.90	0.03	–0.06*	–0.00	0.55**	0.43**	0.48**	0.51**	0.49**	–0.20**	–0.31**	0.60**	(0.78)				
13. OFTP T1	3.35	0.90	–0.09*	–0.04	–0.10*	0.50**	0.58**	0.29**	0.47**	0.36**	–0.32**	–0.22**	0.43**	0.33**	(0.87)			
14. OFTP T2	3.16	1.41	–0.07	–0.06	–0.10*	0.45**	0.52**	0.26**	0.43**	0.33**	–0.31**	–0.18**	0.44**	0.28**	0.76**	(0.88)		
15. Late career planning T1	2.60	1.47	0.18**	0.06	–0.06	0.20**	0.29**	0.09	0.20**	0.08	–0.06	0.02	0.17**	0.15**	0.21**	0.18**	(0.88)	
16. Late career planning T2	2.60	1.50	0.17**	0.06	–0.04	0.21**	0.29**	0.11	0.20**	0.10	–0.04	0.06	0.17**	0.14**	0.21**	0.22**	0.64**	(0.89)

Note. N = 586–800. Reliabilities (Cronbach's alpha) are shown in parentheses on the diagonal. OFTP = occupational future time perspective, CA = career adaptability.

\* p < .05.

\*\* p < .01.

“thinking about what my future will be like,” “keeping upbeat,” “exploring my surroundings,” and “performing tasks efficiently.” Previous research has shown that these four subscales are highly intercorrelated and used the scale as a composite measure (e.g., Jiang, 2016; Ramos & Lopez, 2018; Zacher, 2015a). Also, in the current study bivariate correlations ranged from  $r = 0.53$  between concern and control to  $r = 0.79$  between confidence and control. We therefore used career adaptability as composite measure in our analyses with the mean scores of the four subscales as indicators of career adaptability.

### 3.2.2. Aging experience

The four dimensions of aging experience were assessed with a scale developed by Dittmann-Kohli et al. (1997; Appendix A). Each of the four dimensions: *physical loss*, *social loss*, *personal growth* and *gaining self-knowledge* was measured with four items. Every item begins with “Ageing means to me that I...” Example items are “cannot take as much on as before,” “feel less needed,” “can still learn new things,” and “know myself better.” A confirmatory factor analysis revealed a satisfactory model fit of the four-factor structure ( $\chi^2(129) = 734.21$ ; RMSEA = 0.08, CFI = 0.91, SRMR = 0.05), which is comparable to previous research (Fasbender et al., 2014).

### 3.2.3. Occupational future time perspective

We assessed OFTP with the six-item scale developed by Zacher and Frese (2009). An example item is “My occupational future seems infinite to me.”

### 3.2.4. Late career planning

Late career planning was measured with the 4-item scale by Wöhrmann et al. (2013) that had been adapted from the financial planning activity scale by Stawski, Hershey, and Jacobs-Lawson (2007) as well as from the retirement planning questionnaire developed by Petkoska and Earl (2009). An example item is “I have discussed my post-retirement work plans with colleagues or my supervisor.”

Control variables. We included age and gender as control variables because previous research has shown these may predict late career planning (e.g., Griffin & Hesketh, 2008; Wöhrmann et al., 2013, 2017). With increasing age, time to retirement shrinks and thus, less time is left for planning, suggesting that as people get older, they are more likely to engage in late career planning. Also, workers who are approaching retirement age have a higher probability to continue working because those who want to retire early have already dropped out of the workforce before even reaching this age. With regard to gender, labor force participation rates are on average lower for older women as compared to older men (OECD, 2018). Specifically, in the generation retiring now, men have often worked full-time their whole working life, while women more often stayed at home to raise their children and/or engaged in part-time employment (Moen, Kim, & Hofmeister, 2001). As people tend to continue keeping their previous (work or non-work) roles when approaching retirement (Atchley, 1989), men may be more likely to engage in late career planning as compared to women. Further, it can be assumed that industry may have an effect on late career planning. For those working in the public sector regulations regarding retirement age apply, which may make it harder to continue working at retirement age. We therefore control for working in the public sector as compared to working in the private sector.

## 3.3. Construct validity

To ensure the construct validity of the seven core measures (i.e., late career planning, OFTP, career adaptability, and the four dimensions of aging experience) used in this study, we conducted a series of confirmatory factor analyses. Due to the large number of parameters to be estimated compared to the sample size (below the 5:1 ratio) which can result in instability of the factor solution (Little, Cunningham, Shahar, & Widaman, 2002), we applied an item parceling technique to reduce the number of indicators on the subscales of career adaptability and the subscales of aging experiences to more parsimonious two-per-factor solutions. Results showed that the proposed measurement model showed reasonable fit to the data ( $\chi^2(550) = 2288.56$ ; RMSEA = 0.06, CFI = 0.92, SRMR = 0.07), and was superior to alternative models, such as the seven-factor solution with late career planning and OFTP items loading on one factor at T1 and T2, respectively ( $\chi^2(569) = 5956.85$ ; RMSEA = 0.11, CFI = 0.75, SRMR = 0.13), the seven-factor solution the item parcels related to experiencing aging-related losses loading on one factor and those related to gains loading on another factor ( $\chi^2(565) = 2979.12$ ; RMSEA = 0.07, CFI = 0.89, SRMR = 0.08), the six-factor solution with all aging experience items loading on one factor ( $\chi^2(571) = 3629.35$ ; RMSEA = 0.08, CFI = 0.86, SRMR = 0.08), or the one-factor-solution all items and parcels loading on one common factor ( $\chi^2(594) = 13,262.35$ ; RMSEA = 0.16, CFI = 0.42, SRMR = 0.15).

## 3.4. Analytic strategy

To test our hypotheses, we conducted structural equation modeling (SEM) using Mplus version 7.4 (Muthén & Muthén, 2015). All participants of the first wave of data collection were included in the analyses with missing values being modeled using maximum likelihood estimator (Wang et al., 2017) as the results of the dropout analysis indicated that data are missing at random (Goodman & Blum, 1996; Newman, 2014).<sup>3</sup> Further, we used bootstrapping (with 10,000 draws) to account for deviations from normality for testing the indirect effects (Preacher & Hayes, 2008). Following Little, Preacher, Selig, and Card (2007) we additionally tested cross-

<sup>3</sup> Listwise deletion – and thus only the inclusion of those participants who took part in both waves – yielded the same result patterns for hypotheses testing.

lagged effects of OFTP and late career planning (while controlling for their lagged effects) to rule out reverse causation effects between the mediator and outcome. Moreover, we included age, gender, and industry as control variables regressed on OFTP and late career planning at T1 and T2.

4. Results

4.1. Preliminary analysis

Descriptive results, correlations, and reliabilities of the study variables are shown in Table 1. Late career planning was significantly and positively related to OFTP, career adaptability, personal growth, and gaining self-knowledge.

4.2. Structural equation modeling

To assess the model fit, we controlled for direct effects of the independent variables on late career planning at T2 in our model, however none of them was significant. In fact, the model fit ( $\chi^2(653) = 2399.67$ ; RMSEA = 0.06, CFI = 0.92, SRMR = 0.09) was comparable to the fit of the full mediation model ( $\chi^2(658) = 2405.69$ ; RMSEA = 0.06, CFI = 0.92, SRMR = 0.09) as the chi-square difference was not significant ( $\Delta\chi^2(5) = 6.02, n.s.$ ). We thus kept the more parsimonious full mediation model for the hypotheses testing.

Among the control variables, age had a significant negative effect on OFTP at T1 ( $\beta = -0.08, p < .01$ ) but not at T2 ( $\beta = -0.04, n.s.$ ) and a significant positive effect on late career planning at T1 ( $\beta = 0.17, p < .01$ ) but not at T2 ( $\beta = 0.04, n.s.$ ). Gender had no

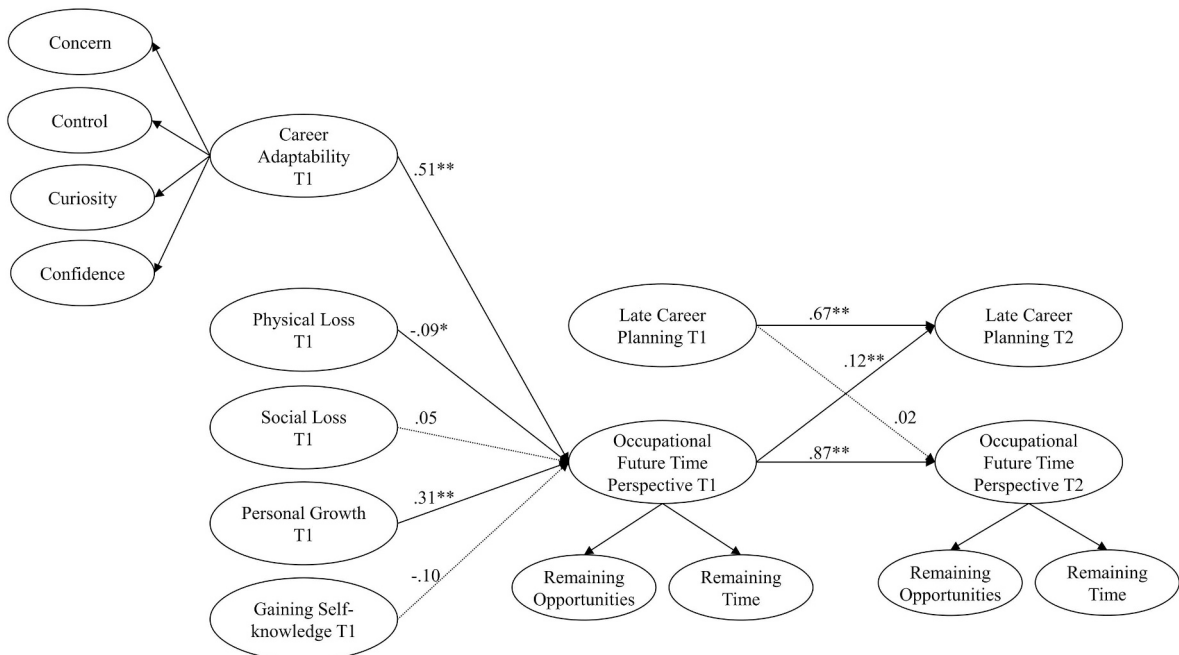


Fig. 2. Results of structural equation modeling with standardized coefficients; \* $p < .05$ , \*\* $p < .01$ .

effect on OFTP at T1 ( $\beta = 0.04, n.s.$ ) and T2 ( $\beta = 0.01, n.s.$ ), or on late career planning at T1 ( $\beta = 0.03, n.s.$ ) and T2 ( $\beta = -0.02, n.s.$ ). Industry (i.e., working in the public sector) had a significant negative effect on OFTP at T1 ( $\beta = 0.08, p < .05$ ) but not at T2 ( $\beta = -0.02, n.s.$ ). Industry was not related to late career planning at T1 ( $\beta = -0.04, n.s.$ ) and T2 ( $\beta = -0.01, n.s.$ ).<sup>4</sup>

4.3. Hypotheses testing

Hypotheses 1 to 3 addressed the relationships between career adaptability, OFTP, and late career planning. As can be seen in Fig. 2, the structural coefficients suggested that career adaptability had a positive effect on OFTP at T1,<sup>5</sup> supporting Hypothesis 1. In

<sup>4</sup> The estimated direct and indirect effects remained stable and significant in the hypothesized direction, even if we did not include control variables in our analyses.

<sup>5</sup> To further investigate this relationship, we ran analyses for the four subdimensions. Adding all effects simultaneously caused suppression effects. Analyzing the effects separately showed positive and significant effects of all subdimensions on occupational future time perspective (concern:



**Table 2**

Indirect effects of career adaptability and aging experience on late career planning via occupational future time perspective with bootstrapped confidence intervals.

Indirect effect via occupational future time perspective (T1)	Late career planning activity (T2)			
	Coeff	SE	CI LL	CI UL
Career adaptability (T1)	0.06*	0.02	0.02	0.11
Physical loss (T1)	−0.01*	0.01	−0.03	−0.00
Social loss (T1)	−0.01	0.01	−0.00	0.02
Personal growth (T1)	0.04*	0.02	0.01	0.08
Gaining self-knowledge (T1)	−0.01	0.01	−0.04	0.00

Note.  $N = 800$ . \* $p < .05$ , Coeff = standardized coefficient, SE = standard error, CI LL = lower level of 95% confidence interval, CI UL = upper level of 95% confidence interval.

turn, we found a positive effect of OFTP at T1 on late career planning at T2, supporting [Hypothesis 2](#). As can be seen in [Table 2](#), also the indirect effect of career adaptability on late career planning at T2 via OFTP at T1 was positive and significant, supporting [Hypothesis 3](#). With regard to the cross-lagged effects between OFTP and late career planning, the results support the direction of the hypothesized relationship as we found that OFTP at T1 affected late career planning at T2 but late career planning at T1 did not affect OFTP at T2.

[Hypotheses 4 to 9](#) addressed the relationships between physical loss, social loss, and personal growth, OFTP, and late career planning. Physical loss had a negative effect on OFTP at T1 and a negative indirect effect on late career planning at T2 through OFTP at T1, supporting [Hypotheses 4 and 5](#). However, the hypotheses regarding social loss were not supported. Social loss had neither a significant effect on OFTP at T1 ([Hypothesis 6](#)) nor a significant indirect effect on late career planning at T2 ([Hypothesis 7](#)). Personal growth had a positive effect on OFTP at T1 and a positive indirect effect on late career planning at T2 through OFTP at T1, supporting [Hypotheses 8 and 9](#). Finally, Research Question 1 asked if there was a relationship between gaining self-knowledge and OFTP and in which direction. Our analyses showed that gaining self-knowledge did not have a significant effect on OFTP at T1.

## 5. Discussion

The current study addressed the career construction of an important yet understudied group of workers, namely older workers who may or may not decide to continue working beyond the formal retirement age. In line with CCT ([Savickas, 2013](#); see also [Hirschi et al., 2015](#); [Rudolph et al., 2017](#)), results supported the notion that late career planning was indeed predicted by older workers' career adaptability. Yet, results also showed that this relationship was indirect, as it was mediated by older workers' OFTP, that is their positive beliefs about the time and opportunities left in their working lives. Also, not only career adaptability, but also their experience of aging mattered for late career planning. In particular, the experience of personal growth showed a positive link, whereas the experience of physical loss showed a negative link to older workers' OFTP. Social loss and gaining self-knowledge showed no significant link to OFTP when included beside the other predictors. This may be due to high intercorrelations between some of the aging experiences, implying conceptual overlap and thus too little unique variance left to be explained in OFTP, and in the case of self-knowledge some measurement issues to be discussed below. Overall, however, results confirm the core idea of the current study that – when addressing the case of older workers – research on adaptive responding needs to go beyond the career-related variables usually discussed within CCT (adaptivity, adaptability, adapting), and needs to integrate with a lifespan development perspective.

### 5.1. Theoretical and practical implications

Our findings have three theoretical implications. First, our results add to the literature on CCT by highlighting the importance of OFTP in the career adaptation process of older workers. Specifically, OFTP is a unique developmental mechanism that helps to understand how older workers construct their late careers. That is, the link between career adaptability and adaptive responding – in this instance the decision to plan for an active working life beyond formal retirement age – is not as direct as current conceptualizations of the adaptation process suggest ([Savickas, 2013](#)). Rather, older workers' career adaptability first extended their OFTP, which then motivated older workers to plan for their late career. Some of these findings directly support the CCT with regard to the role of career adaptability: As part of career adaptability, a career related attitude of concern may well extend the time-frame that older workers envision when thinking about their occupational future. Curiosity may lead older workers to be more sensitive to opportunities, and confidence may facilitate their belief that they will be able to handle whatever work-related challenges emerge once they decide to continue working beyond the classic retirement age. New to CCT, however, is that OFTP is more proximal than career adaptability in driving older workers' adaptive response in the form of late career planning. This finding is relevant for three reasons. First, it highlights the critical role of OFTP in understanding the career construction process among older workers.

Second, it turns the order of variables proposed in CCT somewhat on its head. [Savickas \(2005, p. 53\)](#) posited a positive response to

(footnote continued)

$\beta = 0.59, p < .01$ , control:  $\beta = 0.16, p < .01$  curiosity:  $\beta = 0.43, p < .01$ , confidence:  $\beta = 0.26, p < .01$ ).

the question “Do I have a future?” as the fundamental instigator of getting concerned about a future career at all – and thus the starting point for the whole career adaptation process. The current results, in contrast, suggest that at least among older workers, such question is not the starting point but the mechanism through which career adaptability fosters career adaptive responding. Together, these perspectives do suggest that the process of career adaptation is overall more complex and iterative across the lifespan than conceptualizations largely derived from studies about young people at the onset of their careers would suggest. And third, given that OFTP conceptually addresses primarily a question related to career concern, the finding resonates with earlier research (Hirschi et al., 2015; Van der Horst, Klehe, & Van der Heijden, 2017) showing that the four dimensions of the adaptation process (concern, control, curiosity, and confidence) are not quite as distinct as conceptually proposed but may be heavily intertwined. Second, our findings add the perspective of past experiences to CCT. Although CCT states that people construct their careers by connecting their past experiences with their current situation to plan for “a preferred future” (Savickas, 2013, p. 159), hardly any research has actually undertaken such integration of past, present, and future outlook. By showing how older workers' aging experiences link to their late career planning through their assessment of their occupational future time, we demonstrate the importance of integrating older workers' lifelong development experience into their career construction process. In particular, aging experience can play critical role in shaping how older workers see their occupational future: the experience of physical loss seems to remind workers that their time is limited and that their ability to continue working in their jobs may wane. Nevertheless, the experience of personal growth seems to show an opposite effect. Strengthening their positive outlook, the experience of aging as personal growth seems to raise older workers' awareness of the opportunities still available to them by continuing to work.

Important in this regard is also that the effects of older workers' aging experience were distinct from and above and beyond the impact of their career adaptability. This supports the notion that the career construction of older workers is not only a question of their adaptability alone, but equally of how they experience the process of growing older. In other words, as older workers look back at an extended life- and work-history, a successful career construction and active engagement with an ongoing future career entails not only their career related readiness and resources, but also a reflection of their past experiences in order to forecast and prepare for their future careers. Conceptually, this also implies that career adaptability alone is an insufficient predictor of experienced workers' adaptive responding, and that – fully in line with conceptual arguments (Savickas, 2013) – research on CCT should open up the predictor space beyond individual difference variables related to adaptivity and adaptability. Also, as different experiences related to age are naturally changing over the lifespan, this also suggests that the relative power of career adaptability and different aging experiences to predict adaptive responding may change as well, which in turn calls for a more dynamic and long-term study of the adaptation process across the lifespan.

Third, our findings also bear important implications for the study of successful aging at work (Zacher, 2015b). In particular, older workers' aging experiences may help explain other relevant work-related outcomes that are influenced by OFTP, such as occupational well-being or performance outcomes. In their meta-analysis, Rudolph et al. (2018) indicated that OFTP can explain occupational well-being outcomes (e.g., job satisfaction, work engagement), motivational outcomes (e.g., achievement and learning motivation), and behavioral outcomes (e.g., task and contextual performance). Given our current findings, it is plausible that older workers' aging experiences (especially physical loss and personal growth), rather than their age, can be linked to those outcomes through OFTP.

This study also bears several practical implications. When aiming to motivate older workers to actively plan for a late career, the most direct route to this effect may not be an attempt to raise their career adaptability, but to change their thinking about the time and opportunities available to them related to work. Examples for this may include governmental or organizational initiatives to make older workers aware of the possibilities and benefits associated with working longer, such as the nonmonetary benefits associated with continuing to work in terms of social contacts, staying active, time-structure, and the sense of contributing to a collective purpose, all of which are related to psychological wellbeing (Paul & Batinic, 2010). Organizations may nurture a climate that values and supports an active participation of its older members, thus both socializing workers early on to the notion of continuing to work irrespective of an advancing age and providing them with positive role-models (e.g., Boehm & Dwertmann, 2015; Zacher, 2015b).

In addition, a focus of OFTP as the most proximal antecedent of late career planning does not exclude a focus on its predictors as well. Just as results supported the positive effect of personal growth experiences on workers' OFTP, organizations may further strengthen a culture of life-long learning and development, actively including its older workforce in the process (e.g., Burmeister, Fasbender, & Deller, 2018). At the same time, employers and/or counselors may look for means to counteract the influence of physical loss on workers' OFTP, for example, by identifying career opportunities that impose less physical demands.

Finally, when thinking of taking the route of enhancing career adaptability, past research has already presented interventions with lasting effects on both career adaptability and the resulting employment quality (e.g., Koen, Klehe, & Van Vianen, 2012) or more generally, on career management preparedness (e.g., Vuori, Toppinen-Tanner, & Mutanen, 2012) – although we still lack the knowledge regarding how to adjust such interventions to suit the needs of older workers. For example, Koen et al. (2012) suggested a detailed training intervention consisting of elements to explore peoples' knowledge of self and their environment, as well as to train the implementation of their self-concept into the occupational environment. As older workers are likely to possess increased knowledge about their self and their environment as compared to for example, graduate students and younger workers, the emphasis of the training may well be on the implementation elements, such as exercises on setting short and long-term goals, deciding upon actions, and on how to deal with potential obstacles.

## 5.2. Limitations and directions for future research

In any correlational design, the causality of effects may be questioned. Yet, we do not believe this to be a cause of concern for the

current study for conceptual, methodological, and empirical reasons. Conceptually, the logic of the variables studied starts with very general perceptions about oneself and the meaning of aging to more specific perceptions of one's future career and finally the very specific behaviors of preparing for such a career. Effects from rather global variables (that are usually more stable) to very specific variables are much more likely than the reverse, and behaviors – here late career planning – are particularly easy to change. Therefore, we deem a reverse causation to be rather unlikely to account for the effects found. Methodologically, we had assessed the predictor variables well in advance of mediator and outcome variable, and empirically, the cross-lagged effects between OFTP and late career planning do speak against such interpretation. Nevertheless, the current results do not preclude the possibility that late career planning in turn may also feed back into older workers' perceived career adaptability, creating possibly a self-reinforcing cycle. Such idea would stand well in line with general research on raising one's perceived ability to accomplish a given task, such as those included in the adaptability scale, simply by having performed this task successfully in the past (Bandura, 1986). Therefore, future research might test the development of the proposed relationships over time, for example with the use of a multi-wave cross-lagged panel design, or try to experimentally manipulate predictor variables such as career adaptability (e.g., Koen et al., 2012).

Second, just like any other research addressing workers' inner processes related to career adaptability, past experiences and thoughts about the future, the study had to rely on self-report measures, which raises the concern for potential common method bias. However, besides the necessity to rely on self-reports, our study also satisfies the requirements put forth by Conway and Lance (2010) to reduce the threat of common method variance. We used well-established measures of solid reliability and construct-related validity, as indicated by prior research and our own factor analyses, and without any overlap in meaning/similarity of items, and split data-collection between two measurement points (see also Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), with relationships of variables within measurement points being meaningful but not surprisingly large. Further, nearly all of the variables included continued to show their meaningful unique effect in the overall model, a finding unlikely to occur in the presence of a strong common method variance.

Third, one potential measure that may warrant further inspection is Dittmann-Kohli et al.'s (1997) taxonomy of aging experience, a taxonomy that, we fear, may fall short of fully capturing the affective, cognitive, and physical changes that people experience when getting older. Particularly, the conceptual dimension of self-knowledge may actually include more than one dimension as self-knowledge may refer to both positive as well as negative aspects about oneself. A more elaborate measure, splitting positive from negative self-knowledge gained, might also have rendered more refined and meaningful relationships with OFTP. Further, the consideration of affective and cognitive changes is particularly underrepresented, such as one's focus on positive (vs. negative) emotions and potentially improved emotion-regulation skills, or likely changes in working memory and processing speed (Doerwald, Scheibe, Zacher, & Van Yperen, 2016; Fasbender & Klehe, in press; Truxillo, Cadiz, & Hammer, 2015). Further, it would be useful to capture aging experience in the occupational context as a more proximal predictor of occupational future time perspective. We therefore call for a wider empirical investigation about the individual experience of aging in the context of late career construction.

Fourth, data were collected in the context of an economically well-off West European country without a mandatory retirement age. Thus, results may need replication in differing cultural context. Data from less individualistic cultures could possibly show a reduced impact of the individual difference variable career adaptability. Also countries differ in their labor and/or legal conditions. Conditions that make it more difficult for older workers to continue working, either because they are less sought after or because legal regulations force them to terminate their employment at a certain age, might reduce both mean and variance in OFTP at different ages. Similarly, if the sampling criterion of 'still working' implies a relatively younger sample than the current one, it may change the physical loss that the sample tends to have experienced at that age, and with that the relevance of this predictor on the OFTP still anticipated. In summary, while we see no reason to assume that the predictors of older workers' OFTP and late career planning will generally cease to be relevant, it is well possible that their relative weight might change.

Finally, the current study leaves some points unaddressed, such as the dynamics underlying the relationships between aging experiences and career adaptability, both of which were included as predictors at Time 1 in the current study. While adaptability correlated positively with the experience of personal growth and of gaining self-knowledge, yet negatively with the experience of physical and social loss, the cause and effect of these relationships are as of now unclear. On the one hand, following a conservation of resources logic (Hobfoll, 1989), a high level of career adaptability, originally conceptualized as a resources to face the career challenges ahead, may raise older workers' focus and thus experience of positive developments (growth and self-knowledge) and reduces their focus and thus experience of negative ones (physical and social losses). On the other hand, however, it is equally conceivable that age related losses curb and that age related gains foster older workers' interest and belief in their ability to handle the challenges of managing their careers. In addition, older workers' aging experience and career adaptability may also vary as a function of their work ability (McGonagle, Fisher, Barnes-Farrell, & Grosch, 2015). As such, one may assume that older workers experience aging more positively and perceive their career adaptability as better when their work ability is high (vs. low). Furthermore, future research may use a direct measure of transition experience that could shed more light into the relationships between older workers' career adaptability, aging experiences, OFTP, and their late career planning.

Late career planning is relevant to subpopulation of older workers as with increasing age, the transition to retirement and therewith, the decision to fully retire or to continue working, becomes more imminent. However, the mediating effect between career adaptability and career planning may generalize across the lifespan. Career adaptability should extend both younger and older workers' beliefs about their remaining future time at work because it serves as psychosocial resource providing a sense of confidence and control about one's occupational future. Furthermore, research showed that (general) future time perspective is linked to career commitment (Park & Jung, 2015) and career-related networking (Treadway et al., 2010) for workers of different ages. Considering the existing literature, the mediation effect of OFTP is likely to generalize across the lifespan. However, the actual effect size may vary by age because there are differences in how younger or middle-aged workers come to perceive their occupational future time and

how this changes over time (Weikamp & Göritz, 2015). Moreover, career adaptability is expected to be most important during phases of career transitions (Rudolph et al., 2017; Savickas, 2013). Future research may therefore address the generalizability of the mediating role of OFTP and consider potential moderators, such as age or certain career phases.

Moreover, the present study looked at older workers' late career planning from an individual perspective only and therewith neglecting potential organizational constraints, such as HR-policies and practices shaping individual career and work behavior. Future research may investigate to what extent age-inclusive HR-practices (e.g., employee participation systems, valid selection practices, formal and structured performance appraisal systems, extensive training programs, and merit-based career promotions; Boehm & Dwertmann, 2015; Polat, Bal, & Jansen, 2017) could support older workers' late career planning by promoting an age-friendly diversity climate that supports older workers to continue working rather than feeling pushed out from employment. Another interesting finding relates to the role of industry in our study. We controlled for industry because we assumed that it could have an effect on late career planning, but no significant correlation was found. However, we found that working in the public sector as opposed to working in the private sector was negatively related to OFTP, which calls for future research to investigate the reasons for these differences. Also, societal and macro-economic factors, such as the existence of mandatory retirement age or societal expectations about when people should retire may impact older workers' late career planning (Fisher, Chaffee, & Sonnega, 2016; Visser, Gesthuizen, Kraaykamp, & Wolbers, 2018; Zaniboni, 2015), and others who are involved in the decision-making process, such as recruiters and HR-specialists (Fasbender & Wang, 2017a; Fasbender & Wang, 2017b; Perry et al., 2017). We therefore call for future research to consider contextual factors that support older workers' late career planning from an organizational and societal perspective.

## 6. Conclusion

Overall, the study integrated CCT with a lifespan development perspective. Results confirmed that older workers' late career planning was only indirectly a function of their career adaptability, with OFTP acting as the key mechanism. OFTP, in turn, was also not merely a function of older workers' adaptability, but also of the positive and negative experiences that workers had made with growing older. In the end, it was both older workers' adaptability and their aging experiences that influence the time and opportunities they saw for their future careers as well as their efforts to actively construct a late working career.

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## Appendix A. English version of the experience of aging scale developed by Dittmann-Kohli et al., 1997

### Personal Growth

1. Aging means to me that I continue to make plans.
2. Aging means to me that I can still learn new things.
3. Aging means to me that my capabilities are increasing.
4. Aging means to me that I can still put my ideas into practice.

### Physical Loss

5. Aging means to me that I cannot take as much on as before.
6. Aging means to me that I cannot make up for my physical losses.
7. Aging means to me that I am less energetic and fit.
8. For me, getting older means that I am less healthy.

### Gaining Self-knowledge

9. Aging means to me that I can deal with my physical weaknesses better.
10. Aging means to me that I know myself better.
11. Aging means to me that I am more relaxed about a lot of things.
12. Aging means to me that I have a better idea of what I want.

### Social Loss

13. Aging means to me that I feel less needed.
14. Aging means to me that I am bored more often.
15. Aging means to me that I feel less respected.
16. Aging means to me that I feel lonely more often.

7-point scale (1 = strongly disagree to 7 = strongly agree).

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