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# Older Workers' Age as a Moderator of the Relationship Between Career Adaptability and Job Satisfaction

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## ABSTRACT

Research on career adaptability and its relationships with work outcomes has so far primarily focused on the cohort of younger workers and largely neglected older workers. We investigated the relationship between career adaptability and job satisfaction in a sample of 577 older workers from Australia ( $M_{\text{age}} = 59.6$  years,  $SD = 2.4$ , range 54–66 years), who participated in a 4-wave substudy of the 45 and Up Study. Based on socioemotional selectivity theory, we examined older workers' chronological age (as a proxy for retirement proximity) and motivation to continue working after traditional retirement age as moderators of the relationship between career adaptability and job satisfaction. We hypothesized that the positive relationship between career adaptability and job satisfaction is stronger among relatively younger workers and workers with a high motivation to continue working compared to relatively older workers and workers with a low motivation to continue working. Results showed that older workers' age, but not their motivation to continue working, moderated the relationship between career adaptability and job satisfaction consistent with the expected pattern. Implications for future research on age and career adaptability as well as ideas on how to maintain and improve older workers' career adaptability and job satisfaction are discussed.

Career adaptability is a psychosocial construct capturing employees' perceptions of their self-regulatory resources and competencies for dealing with current and anticipated career changes and challenges (Goodman, 1994; Savickas, 1997). High levels of career adaptability enable employees to manage their careers proactively (Raabe, Frese, & Beehr, 2007) and have been shown to be associated with subjective and objective career success (Griffin & Hesketh, 2003; Zacher, 2014a). Researchers and practitioners agree that career adaptability is an important individual difference characteristic in the modern world of work and in the era of boundaryless careers (Brown, Bimrose, Barnes, & Hughes, 2012; Sullivan & Arthur, 2006).

Extant research on career adaptability and its relationships with work outcomes has primarily focused on adolescents (e.g., Hartung, Porfeli, & Vondracek, 2008; Hirschi, 2009) and younger workers (e.g., Creed, Fallon, & Hood, 2009; Koen, Klehe, & Van Vianen, 2012), and largely neglected the growing cohort of older workers. This represents a significant gap in our knowledge on career adaptability because older workers are increasingly encouraged to remain on the job longer, even beyond traditional retirement ages (Armstrong-Stassen, 2008; Kooij, De Lange, Jansen, & Dikkers, 2008). In addition, many organizations

rely heavily on older workers' accumulated knowledge, skills, and experience and thus are interested in retaining them (Calo, 2005). Like most industrialized countries, Australia has an aging population, and the Australian government is planning to raise the official pension age to 70 years by the year 2035 (Bourke, 2014; Commonwealth of Australia, 2014). Thus, factors that may enhance the associations between older workers' career adaptability and work outcomes deserve further research attention.

With this article, we aim to contribute to the literature on work and aging by investigating the relationship between career adaptability and job satisfaction using a sample of 577 older workers between 54 and 66 years of age from Australia, who participated in four measurement waves of a substudy linked to the large-scale 45 and Up Study (45 and Up Study Collaborators, 2008; <https://www.saxinstitute.org.au/our-work/45-up-study/>). Moreover, we examine older workers' chronological age (as an indicator of temporal distance to retirement) and motivation to continue working beyond traditional retirement age as moderators of this relationship. Importantly, we refer to our entire sample (i.e., workers between 54 and 66 years of age) as "older workers," and we describe those workers younger than the average age of

our sample (i.e., younger than approximately 60 years) as “relatively younger workers” and those workers older than the average age of our sample as “relatively older workers.”

Our conceptual model is shown in Figure 1. In brief, we expect that, among older workers, career adaptability is generally positively related to job satisfaction. We further propose that this positive relationship will be stronger among relatively younger workers (within the group of older workers) and workers with a high motivation to continue working. Conversely, we expect that the positive relationship will be weaker among relatively older workers (within the group of older workers) and workers with a low motivation to continue working. In the following, we define our central constructs and provide further justifications for our hypotheses.

## THEORY AND DEVELOPMENT OF HYPOTHESES

### Career Adaptability and Job Satisfaction

According to career construction theory, employees need to continuously adjust to their social and work environment in order to achieve person-environment fit and, in turn, subjective and objective career success (Savickas, 2013). Accomplishing career tasks such as preparing for, starting, and participating in a work role, as well as dealing effectively with work role demands, transitions, and disturbances are seen as instrumental with regard to meeting own and others’ expectations regarding successful working lives and careers (Savickas, 1997). Within career construction theory, *career adaptability* is conceptualized as a self-regulatory resource and set of competencies that help employees deal with career changes and challenges, proactively manage their careers, and maintain and improve person-environment fit in the context of work and careers (Savickas & Porfeli, 2012). It has been described as a form of human capital that is accumulated over time based on educational, work, and training experiences, and includes “adapt-abilities” such as career concern, confidence, curiosity, and control (Savickas, 1997, 2013; Savickas & Porfeli, 2012). Recent research has operationalized career adaptability using behavioral indicators of these “adapt-abilities,” such as “Looking for opportunities to grow as a person” and “Learning new skills” (Savickas & Porfeli, 2012).

Several studies have shown that career adaptability is positively related to indicators of subjective career success. For instance, career adaptability predicted career satisfaction and self-rated career performance above and beyond the effects of Big Five personality traits and core self-evaluations (Zacher, 2014a). Other studies found that career adaptability is positively related to employees’ general and professional

well-being and quality of life, and negatively related to strain at work (Johnston, Luciano, Maggiori, Ruch, & Rossier, 2013; Maggiori, Johnston, Krings, Massoudi, & Rossier, 2013; Soresi, Nota, & Ferrari, 2012). Based on career construction theory and consistent with these prior empirical findings, we expect a positive relationship between older workers’ career adaptability and job satisfaction. *Job satisfaction* is a work-related attitude that combines affective and cognitive evaluations of one’s job experiences (Brief & Weiss, 2002; Locke, 1976), and is frequently used as an indicator of subjective career success (Bretz & Judge, 1994; Ng, Eby, Sorensen, & Feldman, 2005).

Hypothesis 1: Career adaptability is positively related to job satisfaction.

### The Role of Older Workers’ Chronological Age and Motivation to Continue Working

We propose that two individual difference characteristics, older workers’ chronological age and their motivation to continue working beyond traditional retirement age, moderate the positive relationship between career adaptability and job satisfaction proposed in Hypothesis 1. *Chronological age* is a measure of the time a person has lived since birth and constitutes the most frequently used operationalization of age in psychology and the organizational sciences (Schwall, 2012). In the current study, the age variable was restricted in range, as we were only able to include workers aged 54–66 years. We conceived age as a proxy for older workers’ proximity to retirement, that is, the time that is left before they would typically exit the workforce.

Research in life span psychology has shown that people’s chronological age and their perceptions of remaining time are highly interrelated (Lang & Carstensen, 2002). Within the cohort of older workers, relatively younger compared to relatively older workers are more likely to perceive that they have time left to pursue new goals in the work context (Zacher & Frese, 2009). The behaviors associated with career adaptability should represent a useful self-regulatory resource during this period of remaining time, as they can help relatively younger workers maximize their subjective career success, including job satisfaction. In contrast, those of an older age have less time left at work and thus future-oriented behaviors associated with career adaptability are likely to be less useful resources to them. Thus, within the cohort of older workers, we expect that the positive relationship between career adaptability and job satisfaction is stronger for relatively younger compared to relatively older workers.

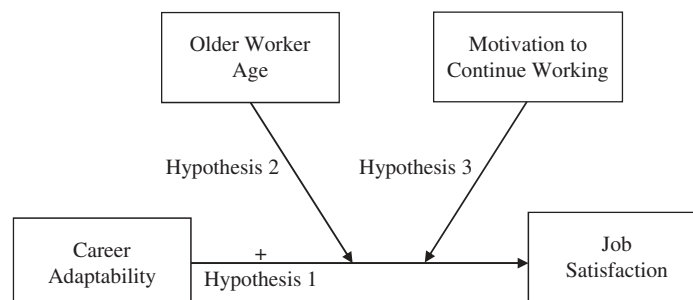


Figure 1. Conceptual model and hypotheses.

This line of reasoning is consistent with the life span theory of socioemotional selectivity (SST), which suggests that people's social and emotional goals change with increasing age and with decreasing time left in life (Carstensen, 2006; Carstensen, Isaacowitz, & Charles, 1999). As people age and become increasingly aware that their time is running out, their focus shifts from knowledge-based to emotional-based goals (Lang & Carstensen, 2002). Applied to the work context, SST suggests that relatively older workers who have limited time left before retirement should be less likely to engage in behaviors that maximize future work outcomes and reflect career adaptability (e.g., networking, training). In contrast, these workers should be more likely to select goals and pursue behaviors that maximize present outcomes (e.g., positive and close social contacts, meaningful events). As employees age and approach retirement, they should be less likely to derive job satisfaction from performing career adaptive behaviors. This is because SST suggests that relatively older workers prefer enacting behaviors that result in positive social and emotional outcomes rather than career advancement. The application of SST principles in the context of aging at work has been supported in several studies (Griffin, Hesketh, & Loh, 2012; Kooij, De Lange, Jansen, Kanfer, & Dikkers, 2011; Ng & Feldman, 2010; Zacher, Degner, Seevaldt, Frese, & Lüdde, 2009). Based on SST, we predict:

Hypothesis 2: Within the cohort of older workers, chronological age moderates the positive relationship between career adaptability and job satisfaction, such that the relationship is stronger for relatively younger compared to relatively older workers.

We further argue that, within the cohort of older workers, the positive relationship between career adaptability and job satisfaction is stronger for workers with a high compared to a low motivation to continue working beyond traditional retirement age. *Motivation to continue working* refers to current employees' opinion about completely retiring from work once they reach traditional retirement age (Armstrong-Stassen, 2008; Bal, De Jong, Jansen, & Bakker, 2012), which in Australia is generally between 60 and 65 years (Australian Bureau of Statistics, 2009). The construct is conceptually related to employees' attitude toward retirement which is frequently studied in the gerontology literature (Glamser, 1976; Mutran, Reitzes, & Fernandez, 1997), but additionally takes the changed social context of retirement and working longer into account. While some older workers would like to continue working as long as possible and cannot imagine to ever retire, others want to cease working as soon as possible and look forward to retirement (Atchley & Robinson, 1982; Desmette & Gaillard, 2008).

We argue that those older workers who are highly motivated to continue working should benefit more from high levels of career adaptability with regard to job satisfaction than older workers who are not motivated to continue working, because they are more interested in investing in their future time at work. For instance, future-oriented behaviors associated with career adaptability such as engagement in training to update knowledge and skills as well as networking should be perceived as particularly relevant and useful by older workers with high motivation to continue working, as these behaviors may help increase person-environment fit and, in turn, job satisfaction in their future time at work. In contrast, factors other than career adaptability should have a stronger influence on the level of job satisfaction of older workers who are less motivated to continue working. For instance, these older workers may derive their job

satisfaction from positive and meaningful customer or coworker contacts (Johnson, Holdsworth, Hoel, & Zapf, 2013). Again, this argument is consistent with SST (Carstensen et al., 1999) and research on remaining time in the work context (Zacher, 2013; Zacher & Frese, 2009).

Hypothesis 3: Within the cohort of older workers, motivation to continue working moderates the positive relationship between career adaptability and job satisfaction, such that the relationship is stronger for workers with high compared to low motivation to continue working.

## METHOD

### Participants and Procedure

Data for this study came from 577 older workers who participated in four waves of a substudy linked to the Sax Institute's 45 and Up Study in Australia (45 and Up Study Collaborators, 2008; <https://www.sax-institute.org.au/our-work/45-up-study>; <http://www.45andup.org.au/index.html>). The Sax Institute's 45 and Up Study is a large longitudinal project (baseline  $N > 250,000$ ) tracking the health of residents aged 45 years and older in New South Wales (NSW), the most populous state of Australia (45 and Up Study Collaborators, 2008). Prospective participants were randomly sampled from the enrolment database of Medicare Australia, which provides near complete coverage of the population. About 18% of those invited participated and participants included about 11% of the NSW population aged 45 years and over. The conduct of the 45 and Up Study was approved by the University of New South Wales Human Research Ethics Committee. Ethical approvals for this specific study was provided by the University of Western Sydney and Macquarie University. A major aim of the four-wave substudy was to investigate the transition to retirement and therefore it targeted participants aged 54 and over given Australian Bureau of Statistics data (2009) showing that the current average retirement age in Australia is 60.2 years. The first wave of substudy data was collected in 2010 and thereafter every 12 months until 2013. The overall response rates of all Time 1 participants at Times 2, 3, and 4 were 74.9%, 69.4%, and 64.1%, respectively.

Only participants who were employed at all four waves of data collection and who provided data on all of the variables of the current study were included in the analyses; listwise deletion resulted in the final sample of 577 older workers. The ages of our participants ranged from 54 to 66 years, and the average age was 59.56 years ( $SD = 2.38$ ), justifying their categorization as "older workers." We use the terms "relatively younger workers" and "relatively older workers" to refer to those below and above the mean age of our sample. Moreover, we use the terms "high age" and "low age" for descriptive purposes in the Results section to refer to workers aged one standard deviation below and above the mean age of our sample (i.e., approximately 57 and 62 years of age), respectively. Of the participants, 273 (47.3%) were women and 304 (52.7%) were men. In terms of highest educational achievement, nearly half of the participants (270; 46.8%) held a university degree or higher, followed by 173 (30.0%) participants with a certificate or diploma. Finally, the average job tenure of participants was 14.89 years ( $SD = 11.55$ ).

### Measures

#### Career adaptability

Career adaptability was assessed at Time 2 with five behavioral indicators of career adaptability that were developed for this study but drew

on Rothwell and Arnold's (2007) construct of perceived employability. The items are "Using professional networks and business contacts to develop your career," "Maintaining your knowledge of potential jobs both inside and outside of your current organization," "Regularly taking up opportunities (e.g., courses, workshops, experience) to develop skills you can use at work," "Keeping on top of new knowledge in your work area," and "Volunteering for roles and tasks that will expand your skills, knowledge, and value" ( $\alpha = .80$ ). The content of the items reveals that our measure focused on behaviors associated with career adaptability instead of adaptability traits such as psychological flexibility or openness to change. Participants rated the extent to which they engaged in these behaviors (5-point scale from 1 = *not at all* to 5 = *very large extent*).

As the current standard to measure career adaptability, the Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012) was not yet developed at the time of the substudy, we conducted a validation study using Amazon's Mechanical Turk (MTurk; Buhrmester, Kwang, & Gosling, 2011), in which we included both our career adaptability measure and the CAAS (example items are "Thinking about what my future will be like," "Making decisions by myself," "Exploring my surroundings," and "Performing tasks efficiently;" note that the CAAS uses a behavioral indicator approach for measuring career adaptability that is similar to our approach). We requested and paid 100 participants in MTurk, and 96 provided complete data. We excluded data from nine participants who were currently not working or responded incorrectly to items designed to detect careless respondents (Meade & Craig, 2012), resulting in a final sample of  $N = 87$ . The MTurk sample used for scale validation was similar to our main sample in that all participants were currently working; however, on average, the MTurk participants were likely to be younger than the participants in our main study (Buhrmester et al., 2011). The correlation between scores on our measure of career adaptability ( $\alpha = .81$ ) and the CAAS score ( $\alpha = .92$ ) was  $r = .61$  ( $p < .001$ ). This moderate correlation provides some support for the convergent validity of our measure, noting that the focus of our career adaptability measure is on specific work- and career-related behaviors (e.g., "Regularly taking up opportunities [e.g., courses, workshops, experience] to develop skills you can use at work") compared to the CAAS items (e.g., "Learning new skills"). Overall, we argue that the face validity of our career adaptability items and the moderately positive correlation with scores on the more general CAAS measure suggest that we adequately captured the construct.

**Table 1.** Means (*M*), Standard Deviations (*SD*), and Correlations of Variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Older worker age	59.56	2.38	—							
2. Gender	0.53	0.50	.06	—						
3. Education	4.91	1.42	.04	.01	—					
4. Job tenure	14.89	11.55	.11**	.09*	.07	—				
5. Motivation to continue working	2.86	1.24	.09*	-.02	-.03	-.12**	—			
6. Career adaptability	3.01	0.85	-.03	-.06	.13**	-.02	.16**	(.80)		
7. Job satisfaction (Time 1)	3.92	0.85	.06	-.01	.03	.07	.10*	.18**	(.87)	
8. Job satisfaction (Time 4)	3.88	0.88	.05	.04	.03	.03	.14**	.17**	.39**	(.92)

Note.  $N = 577$ . Gender was coded 0 = *female*, 1 = *male*. Reliability estimates ( $\alpha$ ), where available, are shown in parentheses along the diagonal.

\* $p < .05$ ; \*\* $p < .01$ .

### Job satisfaction

Job satisfaction was assessed at Time 1 and Time 4 with three items from Hesketh and Griffin (2010). The items are "Overall, I am very satisfied in my job," "I am very interested in my job," and "I get a great deal of accomplishment from my job" ( $\alpha_{\text{Time 1}} = .87$ ,  $\alpha_{\text{Time 4}} = .92$ ). Participants provided their responses on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

### Motivation to continue working

Motivation to continue working was (for the first time) assessed at Time 3 with a single item developed for this study: "I don't plan to ever retire/I plan to work as long as I possibly can" (5-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*). The correlation between the item rated at Time 3 and the same item rated at Time 4 was  $r = .63$  ( $p < .001$ ), suggesting that the item had acceptable test-retest reliability.

### Demographic and control variables

Chronological age (in years), gender (0 = *female*, 1 = *male*), highest level of education achieved (ranging from 1 = *no school certificate or other qualification* to 6 = *university degree or higher*), and job tenure (in years) were measured at Time 1. We controlled for gender, education, and job tenure, as these variables may influence older workers' motivation to continue working, career adaptability, and job satisfaction (Ginn & Arber, 1996; Zacher, 2014a).

## RESULTS

Table 1 shows the descriptive statistics and correlations of the study variables. Older workers' chronological age was positively related to job tenure ( $r = .11$ ,  $p = .009$ ) and motivation to continue working ( $r = .09$ ,  $p = .028$ ). Motivation to continue working was also related to job tenure ( $r = -.12$ ,  $p = .005$ ), career adaptability ( $r = .16$ ,  $p < .001$ ), and job satisfaction (Time 1:  $r = .10$ ,  $p = .014$ ; Time 4:  $r = .14$ ,  $p = .001$ ). Career adaptability was additionally related to education ( $r = .13$ ,  $p = .002$ ) and job satisfaction (Time 1:  $r = .18$ ; Time 4:  $r = .17$ ,  $p < .001$ ). The positive association between career adaptability and job satisfaction at Time 4 provided preliminary support for Hypothesis 1. Finally, job satisfaction at Time 1 was positively related to job satisfaction at Time 4 ( $r = .39$ ,  $p < .001$ ), indicating a moderate stability over time.

**Table 2. Results of Regression Analysis Predicting Job Satisfaction at Time 4**

Variable	Step 1	Step 2	Step 3	Step 4
Step 1: Control variables				
Gender	.04	.05	.05	.05
Education	.03	.01	.01	.01
Job tenure	.03	.04	.03	.01
Step 2: Main effects				
Career adaptability		.15**	.17**	.11**
Older worker age		.03	.04	.02
Motivation to continue working		.11**	.12**	.09*
Step 3: Two-way interactions				
Career adaptability × Older worker age			-.11**	-.12**
Career adaptability × Motivation to continue working			-.08	-.05
Step 4: Lagged effect				
Job satisfaction at Time 1				.36**
$\Delta R^2$		.04**	.02**	.12**
$R^2$	.00	.05	.07	.19
$F$	.66	4.69**	5.11**	14.84**

Note.  $N = 577$ . Standardized regression coefficients ( $\beta$ s) are reported.

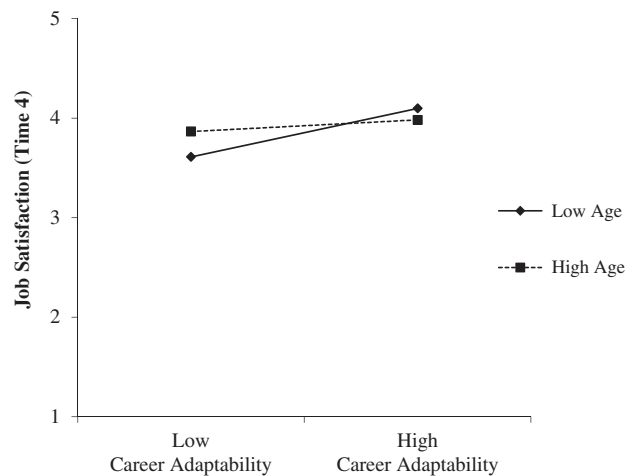
\* $p < .05$ . \*\* $p < .01$ .

### Test of Hypotheses

We conducted hierarchical moderated regression analysis and simple slope analyses to test our hypotheses (Table 2; Cohen, Cohen, West, & Aiken, 2003). We entered the control variables (gender, education, job tenure) in Step 1, followed by the main effects (career adaptability, chronological age, motivation to continue working) in Step 2. We centered the control and predictor variables before entering them in the regression equation and before computing the interaction terms. The two-way interaction terms (Career adaptability × Older worker age, and Career adaptability × Motivation to continue working) were entered in Step 3 (we ran additional analyses in which we additionally included the 2-way interaction between older worker age and motivation to continue working in Step 3, and the 3-way interaction between career adaptability, older worker age, and motivation to continue working in Step 4. These interaction effects were not significant, and including them did not change the findings). Finally, we controlled for job satisfaction at Time 1 in the final Step 4 to examine lagged effects on job satisfaction over time.

According to Hypothesis 1, career adaptability is expected to be positively related to job satisfaction. Table 2 shows that career adaptability positively predicted job satisfaction (Step 2:  $\beta = .15$ ,  $p < .001$ ). The effect of career adaptability on job satisfaction remained significant after controlling for baseline job satisfaction (Step 4:  $\beta = .11$ ,  $p = .008$ ), indicating that career adaptability positively predicted change in job satisfaction over time. These findings support Hypothesis 1.

Hypothesis 2 states that older workers' chronological age moderates the positive relationship between career adaptability and job satisfaction, such that the relationship is stronger for relatively younger compared to relatively older workers. As shown in Table 2, age had no significant effect on job satisfaction (Step 2:  $\beta = .03$ ,  $p = .418$ ). However, the interaction between career adaptability and age significantly predicted job satisfaction (Step 3:  $\beta = -.11$ ,  $p = .009$ ). This effect remained significant after controlling for baseline job satisfaction



**Figure 2. Relationship between career adaptability and job satisfaction moderated by older worker age.** Note: The labels “low age” and “high age” refer to older workers aged one standard deviation below and above the mean age of our sample (i.e., approximately 57 and 62 years of age).

(Step 4:  $\beta = -.12$ ,  $p = .002$ ). To examine whether the interaction effect was consistent with the hypothesized pattern, we plotted the effects of regressing job satisfaction on career adaptability at high (i.e., 1 SD above the mean) and low (i.e., 1 SD below the mean) age (Figure 2), and conducted simple slope analyses to test their significance. Consistent with expectations, the effect of career adaptability on job satisfaction was positive and significant for relatively younger workers ( $B = .24$ ,  $SE = .05$ ,  $t = 4.68$ ,  $p < .001$ ), whereas the effect was weaker and nonsignificant for older workers ( $B = .06$ ,  $SE = .05$ ,  $t = 1.16$ ,  $p = .248$ ). These results provide support for Hypothesis 2.

According to Hypothesis 3, motivation to continue working is expected to moderate the positive relationship between career adaptability and job satisfaction, such that the relationship is stronger for workers with high compared to low motivation to continue working. Table 2 shows that motivation to continue working had a positive effect on job satisfaction (Step 2:  $\beta = .11, p = .007$ ). This effect remained significant after controlling for baseline job satisfaction (Step 4:  $\beta = .09, p = .024$ ), indicating that motivation to continue working positively predicted change in job satisfaction over time. The interaction between career adaptability and motivation to continue working did not significantly predict job satisfaction (Step 3:  $\beta = -.08, p = .054$ ), and this effect remained nonsignificant when controlling for baseline job satisfaction (Step 4:  $\beta = -.05, p = .229$ ). Thus, Hypothesis 3 was not supported.

## DISCUSSION

Australia's population and workforce are aging and, as in many other industrialized countries, Australians' working lives will likely be extended to meet the challenges associated with demographic change and budget constraints (Bourke, 2014; Commonwealth of Australia, 2014). In this regard, individuals' career adaptability is becoming increasingly important, as it can help older workers achieve, maintain, and re-establish person-environment fit (Savickas, 1997) and is related to subjective career success (Zacher, 2014a). Subjective career success, for instance high levels of job satisfaction, is an important outcome among older workers who generally prioritize positive and meaningful experiences (Carstensen et al., 1999). Thus, enhancing career adaptability and, in turn, job satisfaction may help retain older workers. The goal of this study was to extend the literature on work and aging by examining the relationship between career adaptability and job satisfaction using a sample of 577 older workers from the 45 and Up Study, and the role of age and motivation to continue working as moderators of this relationship.

Two of our three hypotheses were supported. First, we found a positive relationship between older workers' career adaptability and job satisfaction as well as a positive effect of career adaptability on change in older workers' job satisfaction over time (Hypothesis 1). This finding is consistent with career construction theory (Savickas, 1997, 2013) and previous empirical research with mostly younger and middle-aged workers that demonstrated positive associations of career adaptability with indicators of subjective career success (Zacher, 2014a).

Second, in support of Hypotheses 2, older workers' chronological age moderated the relationship between career adaptability and job satisfaction. Consistent with expectations, career adaptability appears to be a more important resource among those older workers who still have several years left before retirement (i.e., relatively younger workers). We based this hypothesis primarily on SST (Carstensen et al., 1999), which suggests that those with a more open-ended occupational future time perspective (i.e., because they have a greater temporal distance from retirement) are more interested in maximizing work outcomes in their occupational future. For these workers, career adaptability should constitute a useful work-related resource and therefore contribute to their job satisfaction. Conversely, we proposed that job satisfaction is less likely to be linked to career adaptability and more likely to be influenced by other factors as age increases. For instance,

SST suggests that relatively older workers focus more on immediate emotionally positive and meaningful experiences at work compared to rather effortful and future-oriented behaviors associated with career adaptability, such as engagement in training and networking.

We did not find support for our Hypothesis 3, which proposed that the relationship between career adaptability and job satisfaction is moderated by older workers' motivation to continue working. A possible explanation for this finding may be that career adaptability has different functions for different groups of older workers with low motivation to continue working, which attenuates the interaction effect of motivation to continue working on the association between career adaptability and job satisfaction. One group of older workers with low motivation to continue working may, as we hypothesized, regard career adaptive behaviors as not particularly useful and relevant for achieving their work goals and thus these behaviors are unrelated to their job satisfaction. For another group of older workers with low motivation to continue working, however, career adaptability may constitute a compensatory resource that provides them with positive challenges and interesting activities in their present work situation and thus enhances their job satisfaction. Future research is needed to test these assumptions.

We further found that career adaptability (our predictor variable) was weakly positively related to motivation to continue working (one of our moderator variables), suggesting that facilitating behaviors associated with career adaptability may constitute a way for companies to retain older workers. Finally, it is important to note that our predictor variables explained only a relatively small amount of variance (7%; Table 2) in job satisfaction at Time 4 (controlling for job satisfaction measured at Time 1 accounted for an additional 12% of variance). Clearly, many additional person and contextual factors impact on older workers' job satisfaction, for instance their demands-abilities and needs-supplies fit (Kanfer & Ackerman, 2004; Zacher, Feldman, & Schulz, 2014) and job characteristics (Truxillo, Cadiz, Rineer, Zaniboni, & Fraccaroli, 2012). Moreover, the longitudinal nature of our data may have attenuated the amount of variance explained, as additional confounding factors in employees' work and private lives may have been introduced across the study period of 4 years.

## Limitations and Future Research

This study has a number of potential limitations that could be addressed in future research. First, as not all of the constructs were assessed at each of the four measurement waves, we were only able to examine effects of our predictor variables on change in job satisfaction between Time 1 and Time 4 (i.e., across 4 years), but not reverse causal, reciprocal, and long-term longitudinal relationships. It therefore may be possible that job satisfaction influences career adaptability differentially for relatively younger and relatively older workers with different levels of motivation to continue working. In addition, we examined age differences and not intraindividual age-related changes over time, and therefore we were not able to disentangle cohort and selection effects from actual aging effects. Thus, future research using longitudinal data from multiple measurement waves across longer time spans is needed.

Second, we used only self-report measures, which may be susceptible to common method bias. The fact that job satisfaction, career adaptability, and motivation to continue working were assessed at

different measurement waves can only partially alleviate this concern. However, methodologists have demonstrated that interaction effects cannot be artifacts of common method bias (Siemsen, Roth, & Oliveira, 2010). Nevertheless, to increase objectivity of assessments, future research should also make use of other-reports of workers' career adaptability (e.g., assessed by supervisors or colleagues) and motivation to continue working (e.g., assessed by spouses or partners). Relatedly, our relatively short and practical measure of career adaptability correlated only moderately positively with a more recently developed and longer self-report scale that also uses behavioral indicators to assess career adaptability. The magnitude of this correlation may be explained by the fact that our scale included more specific work- and career-related behavioral aspects of career adaptability than the CAAS (Savickas & Porfeli, 2012). Further evidence for the convergent validity of our scale should be collected. Such studies could also investigate whether concepts such as "career" and "career adaptability" have different meanings for relatively older compared to relatively younger workers. For instance, relatively younger workers may think of career changes as primarily involving vertical job mobility (i.e., promotions), whereas relatively older workers may additionally consider horizontal and downward job changes (i.e., work role changes and demotions).

Third, our study included only older workers and, therefore, the chronological age variable was restricted in range (i.e., 54–66 years). This range restriction did not allow us to compare younger and older workers, only "relatively younger workers" (i.e., workers between 54 and 60 years of age) and "relatively older workers" (i.e., workers between 60 and 66 years of age) within the group of older workers. As we were primarily interested in *older workers'* career adaptability in this study, and conceived older workers' age as a proxy for retirement proximity, the range restriction in the age variable may not constitute a major limitation. However, future research that tests our model using a more age-heterogeneous sample (including younger, middle-aged, and older workers) could shed further light on the role of chronological age for the relationships between career adaptability and work outcomes, including changes in the magnitude of these relationships across the entire working life span.

Researchers could also consider investigating moderating effects of other age-related concepts, such as subjective, social, and relative age, on the association between career adaptability and job satisfaction (Cleveland, Shore, & Murphy, 1997). For instance, employees who feel older or are relatively older compared to most of their team members might benefit less from career adaptability because for them career adaptability may not have much instrumental value. However, before testing more complex models, it is important to integrate established life span theories such as SST with alternative age-related concepts such as subjective, social, and relative age. Future research could also examine additional boundary conditions of our model; for instance, the relationship between career adaptability and job satisfaction may also be influenced by type of industry (e.g., traditional vs. high-tech) and broader cultural factors (e.g., short-term vs. long-term cultural orientations).

Finally, it is important to emphasize that the participation rate of 18% in the 45 and Up Study implies that, despite higher response rates in the substudy, the prevalence of characteristics of participants may not be representative of corresponding characteristics in the NSW or Australian populations of the same age range. However, researchers

have suggested that the generalizability is higher for parameters of a relationship between two 45 and Up Study variables or between one 45 and Up Study variable and data from a linked data set (Mealing et al., 2010). Thus, it is more likely that the relationships found in our study generalize to the NSW and Australian populations than the absolute prevalence of participants' characteristics (see also Highhouse & Gillespie, 2009, for a discussion on statistical and theoretical generalizability).

### Theoretical and Practical Implications

Career adaptability is a psychosocial resource that can help employees achieve, maintain, and re-establish person-environment fit and, in turn, subjective career success (Savickas, 1997; Zacher, 2014a). Research on aging at work and person-environment fit is still in its infancy (for recent exceptions, see Feldman & Vogel, 2009; Hesketh, Griffin, Bayl-Smith, & Dawis, 2015; Perry, Dokko & Golom, 2012; Zacher et al., 2014). For instance, Zacher and colleagues (2014) suggested that worker age impacts not only on objective and subjective fit, but also on relationships among objective and subjective fit as well as occupational well-being. However, the sparse existing literature on aging and person-environment fit has neglected self-regulatory concepts such as career adaptability. Thus, future research on career adaptability and age could take a person-environment fit perspective, in which career adaptability is conceived as a self-regulatory resource that employees can use to proactively increase the fit between their age-related characteristics and their work environment (including demands and opportunities for working in retirement).

Based on the findings of the current study, organizational practitioners could offer interventions aimed at strengthening career adaptability to those older workers who benefit most from them in terms of job satisfaction—that is, relatively younger workers within the cohort of older workers. Empirical studies have shown that career adaptability can be improved over time. First, a longitudinal field quasi-experiment conducted by Koen and colleagues (2012) showed that a training intervention succeeded in enhancing participants' career-related control and curiosity (two dimensions of career adaptability according to the CAAS; Savickas & Porfeli, 2012). Control and curiosity, in turn, resulted in higher levels of perceived employment quality among organizational newcomers (Koen et al., 2012). Practitioners could adapt this training intervention for use with older workers nearing retirement. For instance, perceived career control and curiosity could be enhanced by informing older workers of possible career options, including horizontal career moves and different retirement models (e.g., phased retirement, bridge employment). In addition, recent research with employees from different age groups suggested that enhancing employees' future temporal focus (i.e., their attention to future goals and events) can improve their career adaptability over time (Zacher, 2014b). To shift older workers' temporal focus toward the future, supervisors and human resource management practitioners could discuss with them in detail their career and retirement goals and plans.

Practitioners should also consider designing interventions for those older workers who benefit less from career adaptability in terms of job satisfaction and thus may require other types of intrinsic or extrinsic motivators—that is, relatively older workers within the cohort of older workers. For instance, supervisors and human resource management practitioners could create opportunities for these older



workers to take on mentoring or organizational ambassador roles that fulfill socioemotional needs within shorter time frames (Calo, 2005). For instance, Zacher and colleagues (2009) reported that older workers were more interested in engaging in organizational citizenship behaviors that benefit other people and, in particular, their younger colleagues. In a formal or informal mentoring role, older workers could assist organizational newcomers in “learning the ropes” on the job and in building their social networks. As organizational ambassadors, older workers could represent the organization to outsiders such as job applicants at job fairs or to other practitioners at networking meetings or conferences.

In conclusion, our study extends the literature on work and aging by showing that, within the cohort of older workers, the generally positive relationship between career adaptability and job satisfaction is moderated by older workers’ chronological age. The results suggested that career adaptability is a more important psychosocial resource for relatively younger compared to relatively older workers. Future research is now needed that extends our theoretical ideas guided by SST to include additional moderators of the career adaptability-career success relationship (e.g., age-related concepts such as subjective and relative age) and additional outcomes (e.g., job performance, older workers’ actual decisions to delay retirement). Based on our findings, we suggest that organizational practitioners should enhance the career adaptability of those older workers who benefit most from it in terms of job satisfaction, while simultaneously attempting to enhance the job satisfaction of those older workers who benefit less from career adaptability by conducting alternative work-related interventions.

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