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Occupational future time perspective: A meta-analysis of antecedents and outcomes

Cort W. Rudolph[1] | Dorien T. A. M. Kooij[2] | Rachel S. Rauvola[1] | Hannes Zacher[3]

[1] Department of Psychology, Saint Louis University, Saint Louis, Missouri, U.S.A.

[2] Department of Human Resource Studies, Tilburg University, the Netherlands

[3] Institute of Psychology, Leipzig University, Germany

Correspondence
Cort W. Rudolph, Department of Psychology, Saint Louis University, Morrissey Hall 2827, St. Louis, MO 63103, U.S.A.
Email: cort.rudolph@health.slu.edu

Summary

Occupational future time perspective (OFTP) refers to employees' perceptions of their future in the employment context. Based on lifespan and organizational psychology theories, we review research on OFTP and offer a meta-analysis of antecedents and outcomes of OFTP (K = 40 independent samples, N = 19,112 workers). Results show that OFTP is associated with individual characteristics and personal resources, including age (ρ = −0.55), job tenure (ρ = −0.23), organizational tenure (ρ = −0.25), educational level (ρ = 0.16), and self-rated physical health (ρ = 0.16), as well as job characteristics, such as job autonomy (ρ = 0.22). Moreover, OFTP is related to important work outcomes, including job satisfaction (ρ = 0.28), organizational commitment (ρ = 0.41), work engagement (ρ = 0.22), retirement intentions (ρ = −0.37), and work continuance intentions (ρ = 0.16). OFTP is also related to task (ρ = 0.11) and contextual performance (ρ = 0.20). Additional analyses show that OFTP predicts job attitudes and work performance above and beyond the effects of another developmental regulation construct, selection, optimization, and compensation strategies. Overall, the findings of our meta-analysis suggest that OFTP is an important construct in the context of an aging workforce.

KEYWORDS

aging, focus on opportunities, future time perspective, meta-analysis, remaining time

1 | INTRODUCTION

Due to demographic, economic, and societal changes, many employees expect, want, or have to work longer—sometimes even well beyond the traditional retirement age (Bal, Kooij, & Rousseau, 2015; Truxillo, Cadiz, & Hammer, 2015). Additionally, individuals are increasingly expected to take long-term responsibility for managing their own careers (Gubler, Arnold, & Coombs, 2014). Research suggests that proactivity and adaptability are important for career success (e.g., Rudolph, Lavigne, Katz, & Zacher, 2017; Rudolph, Lavigne, & Zacher, 2017; Tornau & Frese, 2013). Proactive and adaptive behaviors require that employees adopt a long-term perspective to anticipate and plan for their occupational future (Savickas, 1997; Strauss, Griffin, & Parker, 2012). One concept that captures this focus toward the future is occupational future time perspective (OFTP). Based upon research in the lifespan developmental literature (Carstensen, Isaacowitz, & Charles, 1999; Cate & John, 2007), Zacher and Frese (2009) defined OFTP as individuals' perceptions of their future in the employment context. They distinguished between two dimensions of OFTP (i.e., perceived remaining time and focus on opportunities) and showed that both were negatively related to employee age. The negative association between OFTP and age was replicated in several subsequent studies (e.g., Froehlich, Beausaert, & Segers, 2016). Moreover, empirical studies conducted over the past decade have demonstrated positive associations between OFTP and important work outcomes, including job satisfaction, work engagement, and work performance (Schmitt, Zacher, & de Lange, 2013; Weikamp & Göritz, 2016; Zacher, Heusner, Schmitz, Zwierzanska, & Frese, 2010).

Although a recent *qualitative* review of studies on OFTP points to the general importance of OFTP in the work context (Henry, Zacher, & Desmette, 2017), a *quantitative* synthesis and integration of research on antecedents and outcomes of OFTP is currently lacking. To address this gap, we present results of a meta-analysis of the OFTP literature to guide future research and organizational practice. Compared to the qualitative literature review of Henry et al. (2017), our quantitative meta-analysis has at least three notable differences. First, our meta-analysis quantitatively combines findings from multiple studies into precise estimates of the true population relationships between OFTP and commonly investigated antecedents and outcomes. Researchers

Portions of this work were presented at the 4th Age in the Workplace Small Group Meeting in Lüneburg, Germany.

have argued that meta-analyses yield more accurate and credible conclusions than qualitative reviews, which may be consciously or unconsciously biased (Rosenthal & DiMatteo, 2001). Second, whereas Henry et al. (2017) discussed only published research in their qualitative review, we include both published and unpublished data in our meta-analysis to address the "file drawer problem" (i.e., a bias in the published literature toward statistically significant effects; Rosenthal, 1979). Finally, using meta-analytic regression and path analyses, we offer evidence to differentiate OFTP from both chronological age and selection, optimization, and compensation (SOC) strategies as a predictor of important work outcomes. SOC strategy use is another prominent construct from the lifespan developmental literature that is increasingly investigated in the work context (Moghimi, Zacher, Scheibe, & Van Yperen, 2017). SOC strategies constitute proactive behaviors that involve the selection of one's most important goals, optimization of goal pursuit, and compensation for the loss of goal-relevant means (Baltes & Baltes, 1990; Freund & Baltes, 2000, 2002). Given its conceptual and empirical links with chronological age and SOC strategy use (Zacher & Frese, 2011), distinguishing OFTP as a unique predictor is important for establishing its distinctiveness from other constructs within the lifespan development nomological network.

We aim to contribute to the organizational behavior literature in several meaningful ways. First, we quantitatively summarize relationships between OFTP and various antecedents and outcomes. With longer working lives becoming the norm, OFTP represents an important temporal construct for understanding the complexities of the age variable within contemporary work contexts. Second, to build support for our meta-analytic investigation, we outline the development of OFTP and its dimensions across various studies. This discussion serves to bookend a review of research concerning relationships between OFTP and a variety of personal and work-related constructs. To organize our review, we offer an integrative model of the existing nomological network of OFTP and associated constructs. This model summarizes general relationships between individual and job characteristics, as well as various work outcomes that have been studied along with OFTP. Moreover, we examine the unique predictive validity of OFTP beyond chronological age and SOC strategy use (Baltes, Wynne, Sirabian, Krenn, & de Lange, 2014; Zacher & Frese, 2009), both of which have also been linked to important work outcomes (see Brewer & Shapard, 2004; Moghimi et al., 2017; Ng & Feldman, 2008, 2010). Finally, because age is associated with both OFTP and SOC, and because recent theoretical developments concerning successful aging at work have called for the testing of process models that include age-related mediators (Zacher, 2015), we also examine the indirect effects of age on work outcomes through these competing developmental mechanisms. This analysis also responds to a recent call by Rudolph (2016) to conduct integrative tests of the various developmental regulation mechanisms proposed by different lifespan developmental theories. Our process model addresses this call by exploring how OFTP and SOC as two developmental mechanisms operate in tandem with one another and link age to work outcomes.

More practically speaking, our findings contribute to the organizational behavior and human resources management knowledge base. The results of our meta-analysis provide OB/HR professionals with theoretically grounded and empirically supported ideas on how to enhance employees' OFTP through job redesign efforts that indirectly influence important work outcomes. With these goals in mind, next we elaborate on the theoretical models that ground this work and then outline the methods and results of our meta-analysis. We conclude by discussing limitations and implications of the present work, along with recommendations for future research based upon our findings.

2 | OCCUPATIONAL FUTURE TIME PERSPECTIVE

The OFTP construct originates from research in the lifespan developmental literature on the general or context-free notion of future time perspective (FTP). FTP is a core construct in socioemotional selectivity theory (Carstensen, 1991, 2006; Carstensen et al., 1999), which suggests that FTP decreases with age and predicts changes in the priority of individuals' social goals. Specifically, younger people, who tend to have an expansive FTP, prioritize instrumental and knowledge-related goals (e.g., meeting a broad variety of new people) that help them maximize gains in the future. In contrast, older people typically have a more constrained FTP and are therefore thought to prioritize meaningful and positive goals in the present (e.g., meeting close social partners, mentoring). In the lifespan developmental literature, general FTP is typically assessed with a 10-item self-report scale developed by Carstensen and Lang (1996, Lang & Carstensen, 2002). FTP differs from other temporal constructs such as time orientation (Zimbardo & Boyd, 1999) and temporal focus (Shipp, Edwards, & Lambert, 2009), which refer to individual difference characteristics that are relatively stable across the lifespan.

Zacher and Frese (2009) adapted the FTP concept to the employment context; OFTP concerns people's perceptions of their *occupational* future time. They conceptually distinguished two related dimensions of OFTP and assessed them with an adapted version of Carstensen and Lang's (1996) FTP scale. *Perceived remaining time* describes individuals' perceptions of the amount of future time they expect to spend in employment. Zacher and Frese (2009) showed that perceived remaining time was strongly negatively associated with age, suggesting that older employees perceive their remaining time at work as more limited than younger employees. The second dimension of OFTP, *focus on opportunities*, captures individuals' perceptions of new work-related goals, possibilities, and opportunities that are foreseen in the future. Zacher and Frese (2009) showed that focus on opportunities was moderately negatively related to age, and that high levels in two motivational job characteristics (job autonomy and complexity) buffered this relationship.

Most studies have operationalized either only one of the two OFTP dimensions (e.g., perceived remaining time, Kooij & Zacher, 2016; e.g., focus on opportunities, Zacher et al., 2010) or have combined all 10 items into an overall OFTP score (e.g., Ho & Yeung, 2016; see Henry et al., 2017, for a review). The combination of these two dimensions into an overall OFTP score can be justified by a relatively strong positive relationship noted in primary studies (e.g., r = 0.60 reported by Zacher & Frese, 2009). Despite this, evidence suggests that perceived remaining time and focus on opportunities

are conceptually and empirically distinct from one another (i.e., as shown by factor analysis; Zacher & Frese, 2009). Subsequent studies adopting a psychometric focus (e.g., Kochoian, Raemdonck, Frenay, & Zacher, 2017; Weikamp & Göritz, 2016) have replicated this two-factor structure of OFTP proposed by Zacher and Frese (2009). Beyond their factorial validity and distinctiveness, previous conceptual and empirical work suggests that the two dominant dimensions of OFTP are positively related to one another (e.g., Froehlich et al., 2016; Weikamp & Göritz, 2015). To explore the extent of this relationship, we meta-analytically estimate the strength of the association between perceived remaining time and focus on opportunities.

Additionally, in a study with unemployed job seekers, Zacher (2013) factor analyzed the 10 OFTP items and identified 3 distinct dimensions: perceived remaining time, focus on opportunities, and focus on limitations. This three-factor structure is consistent with research in the lifespan developmental literature (Cate & John, 2007; Rohr, John, Fung, & Lang, 2017). Specifically, Cate and John (2007) argued that focus on opportunities and focus on limitations are not endpoints on the same underlying dimension, but that individuals can perceive limitations in their remaining lifetime, and also perceiving some remaining opportunities in the future. However, with the exception of Zacher (2013), all other studies concerning OFTP have focused either on perceived remaining time, focus on opportunities, or overall OFTP.

Zacher and Frese (2011) argued that OFTP is distinct from other individual difference constructs such as optimism and self-efficacy, and that the maintenance of high levels of OFTP among older workers can be used as an indicator of successful aging at work. Moreover, Zacher and colleagues suggested that OFTP serves as a developmental regulation mechanism in that high OFTP leads to improved occupational well-being, job attitudes, and performance (Schmitt, Gielnik, Zacher, & Klemann, 2013; Schmitt, Zacher, & de Lange, 2013). They also demonstrated that employee age has indirect effects on these favorable work outcomes via OFTP (Gielnik, Zacher, & Frese, 2012; Zacher et al., 2010). Thus, OFTP appears to have a motivational and salutogenic function in the work context. High levels of OFTP seem to be particularly important among older workers because, on average, OFTP declines with age, and variance in OFTP increases with age (Zacher & Frese, 2011).

3 | ANTECEDENTS OF OFTP

Figure 1 shows our integrative model of the existing nomological network of OFTP and its associated constructs. This model serves to provide an overview of those antecedents and outcomes of OFTP that have been most commonly studied in the literature, and that we have included in our meta-analysis. To serve as a visual summary of this literature, Figure 1 also depicts the patterns of relationships between OFTP and these variables in terms of the directionality most generally assumed and/or observed. Importantly, Figure 1 serves only as a conceptual representation insomuch as the separation of variables into antecedents and outcomes is not intended to imply that empirical studies have necessarily identified causal relationships. Rather, this representation serves as a conceptual summary of the literature on OFTP to organize our meta-analytic review. With this understanding, we next expand upon the linkages represented within this model.

3.1 | Individual characteristics and personal resources

The first set of antecedents considered in our meta-analysis consists of individual characteristics and personal resources, including age, gender, job and organizational tenure, educational level, and self-rated physical health (see Figure 1). Age, job tenure, and organizational tenure are temporal variables, and, as such, they have been commonly studied in relation to OFTP (e.g., Barbieri, Zurru, Cossu, & Farnese, 2015; Ho & Yeung, 2016). Research concerning links between such temporal variables and OFTP typically invokes explanations borrowed from Carstensen's socioemotional selectivity theory (Carstensen, 1991, 2006; Carstensen et al., 1999). From this perspective, older employees

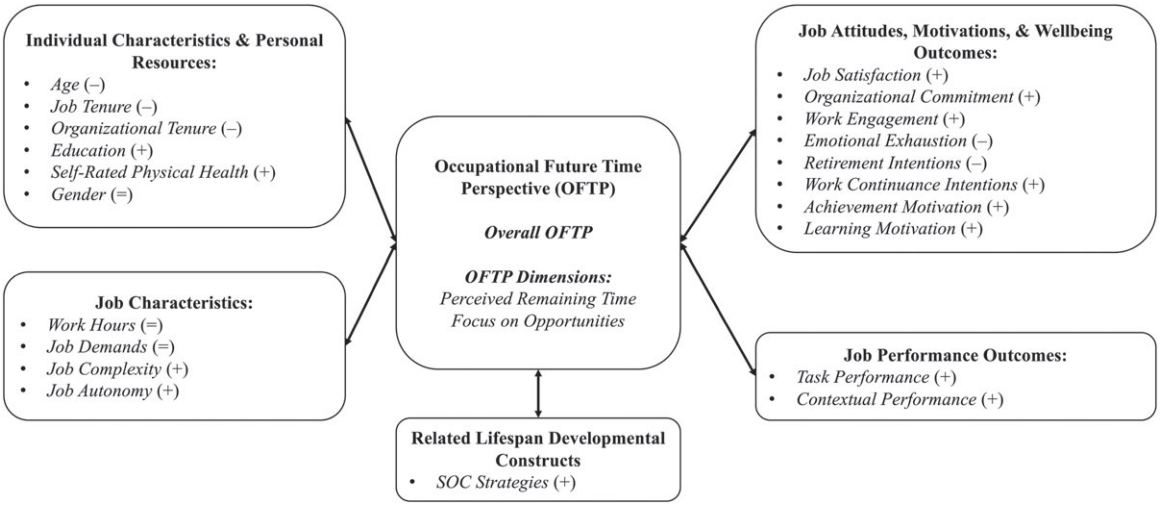

FIGURE 1 Conceptual model and nomological network of assumed antecedents and outcomes of occupational future time perspective. SOC = selection, optimization, and compensation. Within parentheses, (+) indicates generally positive relationships with OFTP noted in literature, (−) indicates generally negative relationships with OFTP noted in the literature, (=) indicates generally equivocal relationships with OFTP noted in the literature. Double-headed arrows indicate that these relationships are assumed to be correlational, not causal, in nature

and employees with high job and organizational tenure tend to have less time left in their job and with their organization due to mandatory, forced, or voluntary retirement (e.g., Zacher & Frese, 2009). In addition, many organizations specifically invest in younger workers that have just entered the organization or in middle-aged employees that are progressing in their careers (e.g., Maurer, Weiss, & Barbeite, 2003). Older workers themselves also tend to be less invested in their career development than younger workers (Colquitt, LePine, & Noe, 2000; Maurer et al., 2003). These observations are echoed in research that points more directly toward negative associations between temporal variables and domain-general FTP. For example, Cate and John (2007) report that younger adults report higher focus on opportunities than older adults. The same conclusion was reached by Zacher and de Lange (2011). Thus, it is perhaps not surprising that research generally reports that perceived remaining time, focus on opportunities, and overall OFTP are lower among older workers, and those with longer job and organizational tenure, compared to younger workers and those with shorter job and organizational tenure.

Beyond these time-related demographic characteristics, past research has commonly considered gender and educational level as demographic characteristics. Consistent with the gender similarities hypothesis (Hyde, 2005), research has demonstrated equivocal relationships between gender and OFTP (e.g., Zacher & Frese, 2009, 2011). However, clearer arguments for relationships between education level and OFTP exist. For example, past research has justified generally positive relationships between education level and OFTP (e.g., Schmitt, Zacher, & de Lange, 2013; Weikamp & Göritz, 2016). This suggests that those with more advanced education tend to have higher intentions to work beyond traditional retirement age (Griffin & Hesketh, 2008). In addition, highly educated employees show higher performance on the job (Ng & Feldman, 2009). Because organizations are likely to provide their highly educated and high-performing employees with more work-related opportunities (Rosen, 1981), it has been argued that employees with higher educational levels are likely to perceive more occupational opportunities and a longer occupational future.

General self-rated health (i.e., subjective physical health status) has also been studied as an antecedent of OFTP, and thus, we examine such relationships in our meta-analysis. Zacher et al. (2010) argued that personal resources, such as health, may contribute to perceptions of future time and opportunities, because they may help individuals work better and for longer. Similarly, Cate and John (2007) proposed that declines in health and energy may result in a decline in focus on opportunities. This reasoning is in line with conservation of resources theory (Hobfoll, 1989), which proposes that people strive to obtain, retain, and protect personal resources, such as perceived remaining time and focus on opportunities, by utilizing other resources, such as health. This process is known as a "gain cycle" (Hobfoll & Wells, 1998). Following this line of reasoning, research has argued that people with better self-rated health invest these resources to gain additional resources, including higher OFTP. Indeed, Zacher and Frese (2009) found that both perceived remaining time and focus on opportunities were positively related to subjective physical health, and Kooij and van de Voorde (2011) found that subjective general health positively predicted focus on opportunities. These findings and the arguments that support them align with other observations of positive relationships between general, self-rated indices of health and OFTP found in the literature (e.g., Gielnik et al., 2012; Zacher & Frese, 2011).

3.2 | Job characteristics

In addition to individual characteristics and personal resources, research suggests that various situational factors may also be related to OFTP. We consider four job characteristics (i.e., work hours, job demands, job complexity, and job autonomy) that have been studied in relation to OFTP in our meta-analysis (see Figure 1). Although work hours entail how much employees work, job demands additionally involve the amount of work that has to be completed within that time (Spector & Jex, 1998). As with gender, there is no strong theoretical guidance from this literature to support relationships between OFTP and these constructs. On the one hand, a high number of work hours and high job demands may suggest that employees are highly invested in their job, which could result in an enhanced OFTP. On the other hand, these job characteristics may be considered stressors that lead to reduced OFTP, because employees cannot imagine an expansive occupational future given their current job conditions (see Barbieri et al., 2015; Ho & Yeung, 2016). There currently is scant evidence available that directly and unanimously speaks to positive or negative associations between OFTP and these constructs.

Job complexity and job autonomy are typically considered work-related resources in the OFTP literature (Zacher & Frese, 2009). Job complexity refers to the extent to which the tasks in a job are complex and challenging (Morgeson & Humphrey, 2006), whereas job autonomy (sometimes referred to as job control) involves "the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out" (Hackman & Oldham, 1976, p. 258). Jobs characterized by high complexity and control require that employees use their knowledge, skills, and abilities, and learn continuously (Kozlowski & Hults, 1986), resulting in better mental health (Caplan, Cobb, French Jr., Van Harrison, & Pinneau, 1975) and higher work motivation (Hackman & Oldham, 1976). In general, research finds that both job complexity and job autonomy are positively related to OFTP (e.g., Zacher & Frese, 2009). One argument for this observation based on conservation of resources theory (Hobfoll & Wells, 1998) suggests that jobs with higher complexity and autonomy offer resource-rich work contexts, which help employees to gain additional resources in terms of perceived remaining time and focus on opportunities (see also Zacher et al., 2010; Zacher & Frese, 2009, 2011). In addition, Zacher and colleagues argue that individuals use their perceptions of current work situations to draw inferences about their future work (cf. Markus & Nurius, 1986; Markus & Wurf, 1987), suggesting that a current resource-rich work environment will lead to positive perceptions about future work environments and, thus, higher OFTP.

4 | OUTCOMES OF OFTP

Past research has focused on two broader categories of important work-related outcomes of OFTP. The first category includes indicators

of work attitudes, motivation, and occupational well-being (i.e., job satisfaction, organizational commitment, work engagement, emotional exhaustion, retirement intentions, work continuance intentions, achievement motivation, and learning motivation), whereas the second category includes task and contextual performance.

4.1 | Job attitudes, motivation, and well-being outcomes

The literature on associations between OFTP and favorable job attitudes, motivations, and well-being outcomes (e.g., Schmitt, Zacher, & de Lange, 2013) tends to focus on the importance of positive future thinking to support such relationships (Oettingen & Mayer, 2002). In his theory, Nuttin (1964) posited that FTP influences the valence of future outcomes. Similarly, de Volder and Lens (1982) distinguish between cognitive and affective aspects of FTP, arguing that individuals who score high on affective aspects of FTP have a more optimistic outlook on the future, have higher levels of confidence in the attainment of future goals, and attach greater value to future rewards. Optimistic thinking, in turn, is associated with successful cognitive and self-regulatory problem solving, prosocial and helping behavior, setting high standards and aspirations, and indicators of mental health, which are all essential for favorable attitudes, motivation, and well-being (Oettingen & Mayer, 2002).

Similarly, Seligman and Csikszentmihalyi (2000) argue that future mindedness is beneficial for well-being, because it is a positive individual difference characteristic that can act as a buffer against mental illness and improve quality of life. Building upon this line of reasoning, primary studies have found generally positive associations between OFTP and the constructs of job satisfaction (e.g., Weikamp & Göritz, 2016), organizational commitment (e.g., Profili, Sammarra, & Innocenti, 2017), work engagement (e.g., Schmitt, Zacher, & de Lange, 2013), continuance intentions (e.g., Chen, 2015), achievement motivation (e.g., Froehlich et al., 2016), and motivation to learn (Kochoian, Raemdonck, Coertjens, Frenay, & Beausaert, 2017). Additionally, negative relationships have been found between OFTP and emotional exhaustion (e.g., Barbieri et al., 2015) and intentions to retire (e.g., Bal, de Lange, et al., 2015). To further codify the nature of these findings, we synthesize all of these relationships in our meta-analysis.

4.2 | Job performance outcomes

Research has demonstrated positive relationships between OFTP and various performance-related outcomes. Such studies tend to focus on the theory of possible selves (Markus & Nurius, 1986) and on self-regulation theory (Bandura, 2006; Miller & Brickman, 2004) to explain these associations (e.g., Gielnik et al., 2012; Kochoian, Raemdonck, Frenay, & Zacher, 2017; Zacher et al., 2010). According to Cross and Markus (1991), possible selves provide self-relevant goals and opportunities, and thereby, the essential link between individuals' cognitions and motivation. Similarly, Janeiro (2010) argued that thinking about the future allows people to motivate themselves and guide their actions in anticipation of future events; as such, the cognitive ability to plan and organize future activities is an important self-regulatory mechanism to motivate employees (Miller & Brickman, 2004). Employees who perceive a long occupational future filled with new goals and opportunities will set proximal subgoals to link their current efforts to attain these distal goals and opportunities. Following from these arguments, research has demonstrated that employees with high levels of OFTP tend to perform better at work (e.g., Weikamp & Göritz, 2016; Zacher et al., 2010), both in terms of the proficiency of task-relevant behavior (i.e., task performance) and in terms of helping others and their organization (i.e., contextual performance; Borman & Motowidlo, 1993).

5 | DISTINGUISHING OFTP FROM RELATED DEVELOPMENTAL CONSTRUCTS

Beyond holding favorable perceptions of the occupational future (i.e., OFTP), the use of action regulation strategies (i.e., SOC) is another important developmental regulation mechanism to consider for the prediction of work outcomes. Like OFTP, the SOC construct emerged from the lifespan developmental literature (Baltes & Baltes, 1990). SOC refers to the orchestration of a set of three interrelated and complimentary behavioral strategies, which serve important goal regulation functions (Freund & Baltes, 2000, 2002). Selection may take either an elective form, referring to the extent to which individuals set and prioritize new goals to achieve desired states, or a loss-based form, referring to the extent to which individual disengage from unattainable goals (e.g., via selecting new goals or reorganizing goal priorities). Optimization refers to the allocation and investment of personal resources (e.g., time, effort, and knowledge) in service of goal attainment. Finally, compensation refers to those actions that, in the face of resource losses, aid in the acquisition of new resources, or the reactivation of unused resources, to achieve one's goals. As a whole, SOC strategy use is particularly important to successful developmental outcomes when demands outweigh resources, and the SOC model proposes that people who experience a mismatch between their demands and resources can maintain effective functioning and well-being by using SOC strategies (Baltes & Baltes, 1990).

Research has previously considered empirical links between OFTP and SOC. For example, Zacher and Frese (2011) found that focus on opportunities at work was positively related to SOC, and this effect was not conditional upon job characteristics (i.e., job complexity). More recently, Baltes et al. (2014) reported longitudinal links between domain-general FTP (i.e., assessed via the scale by Carstensen & Lang, 1996) and SOC. Consistent with the pattern reported by Zacher and Frese (2011), this study suggested that, over time, FTP was positively related to SOC. This suggests that employees who focus on and successfully pursue important work goals also perceive more remaining time and work-related opportunities in the future. Consistent with the assumption that SOC strategy use helps employees to invest their personal resources in an optimal way at work, a meta-analysis showed that SOC strategy use is associated with favorable work outcomes, including job satisfaction, work engagement, and job performance (Moghimi et al., 2017). Moreover, Moghimi et al. (2017) showed that SOC strategy use is weakly, yet positively, associated with age.

In our meta-analysis, we examine whether OFTP predicts work outcomes above and beyond (i.e., incremental to) SOC strategy use.

In addition, as age is strongly and negatively correlated with OFTP, we follow recommendations in the literature (Schmitt, Zacher, & de Lange, 2013) and control for age when using OFTP to predict work outcomes. Finally, age has also been shown to be associated with various work outcomes in the past research (Ng & Feldman, 2008, 2009), and as both OFTP and SOC are related to age, we consider how age is indirectly related to work outcomes through OFTP and SOC. To this end, Rudolph (2016) has argued that more integrative tests of multiple developmental constructs should be undertaken, suggesting that OFTP might work in tandem with SOC within a larger goal striving action-phase sequence. Our meta-analytic review of these constructs is well geared to empirically "unpack" some of the complexities among these constructs that have been noted in this literature.

6 | METHOD

6.1 | Literature search

Best practices for the conduct of meta-analyses dictate the need to complete thorough and comprehensive literature searches (e.g., Cooper, Hedges, & Valentine, 2009; Higgins & Green, 2011) and to exhaust all efforts to obtain published and unpublished studies to circumvent the possibility of publication bias (McDaniel, Rothstein, & Whetzel, 2006) stemming from the so-called file drawer problem (Rosenthal, 1979). As such, we conducted a comprehensive literature search between September 1, 2016, and March 1, 2017 aimed at obtaining both published and unpublished primary studies. We also conducted a supplemental search of this literature in September of 2017 to support a revision effort. As a first search strategy, we searched the electronic search engine Google Scholar, which yielded the highest initial search based upon our keywords. After collecting relevant studies from this first search, we then conducted iterative follow-up searches using various search engines and databases, including EBSCOHost, Emerald, JSTOR, ProQuest, PsycINFO, ScienceDirect, and Web of Science. For each subsequent search engine and database, we collected all nonredundant studies (i.e., those that were uniquely identified as not overlapping with previous searches). Given that the original OFTP scale was published by Zacher and Frese (2009), all studies included in our meta-analysis had likewise been published or otherwise conducted since 2009.

The literature searches used the keyword "occupational future time perspective" as well as the individual dimensions of OFTP as defined by Zacher and colleagues (i.e., "perceived remaining time" and "focus on opportunities"; Zacher & Frese, 2009; "focus on limitations," Zacher, 2013). We additionally conducted ancillary searches for specific OFTP scale items as keywords (e.g., "Most of my occupational life lies ahead of me" OR "My occupational future seems infinite to me" OR "As I get older, I begin to experience time in my occupational future as limited" OR "Many opportunities await me in my occupational future" OR "I expect that I will set many new goals in my occupational future" OR "My occupational future is filled with possibilities").

To be even more comprehensive, we conducted "snowball" searches to find all studies citing the original Zacher and Frese (2009) scale development paper. To locate additional studies, we further examined the references of all qualifying primary studies and conducted forward searches of those relevant studies that cited each retrieved article. In total, this exhaustive search process yielded an initial set of over 150 references. Based upon our *a priori* inclusion and exclusion criteria (see below), we collected only those relevant quantitative and empirical studies of OFTP from the initial studies obtained by carefully examining the abstract, methods, and results of each study.

To supplement our initial literature searches, we also cross-referenced conference programs from the Academy of Management (2010–2015), the Society for Industrial and Organizational Psychology (2010–2016), and the European Association for Work and Organizational Psychology (2011, 2013, & 2015). Finally, in an attempt to obtain unpublished data, manuscripts in preparation, and in-press articles, we sent personal emails to 20 researchers who have published previously on OFTP. We also put out formal calls for unpublished data via professional mailing lists and website postings. Lastly, we searched for prepress "online first" articles via various relevant journals that have previously published OFTP studies (e.g., *Journal of Organizational Behavior; Journal of Vocational Behavior; Work, Aging and Retirement).*

After these efforts, our primary meta-analytic database contained 406 effect sizes coded from K = 38 sources. Two studies (Kooij & Zacher, 2016; Schmitt, Zacher, & de Lange, 2013) report results from two separate samples, thus, our database represents K = 40 independent samples and a total of N = 19,112 workers. Our secondary meta-analytic database of the intercorrelations between the Zacher and Frese (2009) OFTP dimensions was based upon a total of K = 16 independent samples, representing a subset of N = 7,549 workers. All studies included in our meta-analysis are indicated with an asterisk (i.e., *) in the reference list. Figure 2 outlines the flow of this literature search process, including a specification of the intermediate yields of included and excluded studies that resulted in our final database of K = 40 independent samples.

While coding primary studies, we took proactive efforts to contact authors to clarify information (e.g., the dummy coding pattern of gender; type of tenure) or missing data (e.g., scale reliabilities; intercorrelations among OFTP dimensions). In general, such issues were easily rectified (i.e., in each case, we were able to obtain the required information).

6.2 | Inclusion and exclusion criteria

As part of our larger research effort, we conducted two separate meta-analyses. The first primary meta-analysis considers overall OFTP and specific OFTP dimension relationships. The second supporting meta-analysis considers interrelationships among these OFTP dimensions. Because the goals of these two meta-analyses were somewhat different, we initially developed and applied two sets of *a priori* inclusion and exclusion criteria. For the primary meta-analysis, we set seven specific inclusion and exclusion criteria to guide our literature searches.

First, to be included, studies must have measured OFTP in terms of either (a) perceived remaining time or focus on opportunities as outlined by Zacher and Frese (2009), or in terms of focus on limitations as outlined by Zacher (2013) or (b) as overall OFTP, an aggregation of

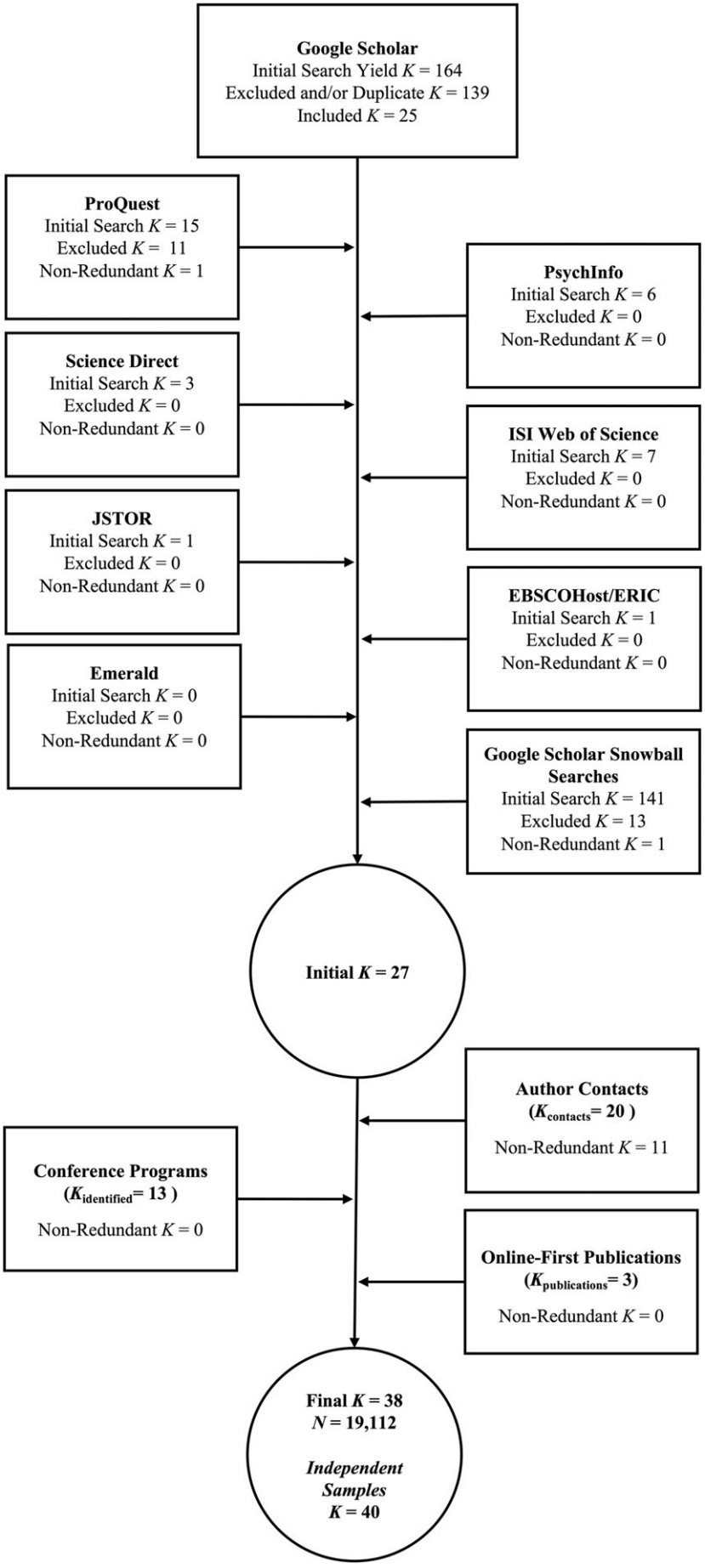

FIGURE 2 Outline of the literature search process

two or more of these dimensions. Studies adopting alternative measurement instruments (i.e., those using domain-general FTP scales in the work context, e.g., Kooij & van de Voorde, 2011) were excluded from our analysis. In terms of conceptualizing overall OFTP in our analyses, we either coded such relationships directly from studies that included OFTP as a composite score (e.g., Ho & Yeung, 2016) or we computed a composite score to represent overall OFTP across the dimension-level correlations using Hunter and Schmidt's (2004) composite formulae. This first inclusion criterion led to the exclusion of review articles (e.g., Henry et al., 2017) and studies adopting qualitative methodologies (e.g., Ng & Law, 2014).

Second, in addition to measuring OFTP, at least one of the individual characteristics, job characteristics, or work outcomes from our integrative model must also have been measured (see Figure 1). Third, we were very careful to only code independent effect sizes from each primary study so as not to "double count" studies. This was a particular concern as we sought to include unpublished bachelor's and master's theses and doctoral dissertations in our meta-analysis (K = 13). Another related concern regarding student works is that, in some universities, groups of bachelor's and master's students work together in "thesis circles" to complete such projects. We identified K = 1 thesis circle that qualified for inclusion here (Mauritz, 2012; van der Maarel, 2011). In this case, we only coded independent and non-overlapping relationships that were unique to each individual study.

Fourth, whenever longitudinal analyses were reported, we coded relationships based on time-one data for complete panel designs (e.g., Kooij & Zacher, 2016), and between OFTP and relevant correlates at other time points when incomplete panel designs were used (e.g., Weikamp & Göritz, 2016). Fifth, whenever studies reported results from multiple independent samples, each sample was included as a separate independent study in our meta-analysis (e.g., Schmitt, Zacher, & de Lange, 2013).

Sixth, for studies that adopted intensive longitudinal designs (i.e., so-called experience sampling or daily-diary studies), we considered only between-person effects to be consistent with our operationalization of OFTP (i.e., within-person data aggregated to the between-person level of analysis; e.g., Schmitt, Zacher, & de Lange, 2013). Finally, studies reporting results in languages other than English were translated using translation software and native speakers (i.e., Dutch, German).

For the secondary meta-analysis of OFTP dimension-level intercorrelations, we assumed an eighth inclusion criterion. Specifically, we additionally sought to quantify the strength of the intercorrelations between individual dimensions of OFTP. For this analysis, we only considered studies that measured the two OFTP dimensions included in the Zacher and Frese (2009) OFTP scale (i.e., perceived remaining time and focus on opportunities). Indeed, although we originally sought to include focus on limitations, too few studies utilized this dimension from Zacher (2013) to be included here (K = 1).

6.3 | Measures of key constructs

Our meta-analysis considered relationships of overall OFTP and its dimensions with a set of individual characteristics, job characteristics, and work outcomes (Figure 1). Consistent with a great deal of past research and methodological best practices for the conduct of meta-analyses, we included such relationships in our models in cases where they were represented in at least three ($K \geq 3$) independent samples. As outlined by Valentine, Pigott, and Rothstein (2010), even when K = 2, meta-analysis is superior to other means of synthesis (e.g., the so-called "cognitive algebra" by which one tries to mentally integrate multiple findings across studies). Moreover, a number of previous meta-analyses in the organizational sciences have successfully adopted this $K \geq 3$ criterion (e.g., Choi, Oh & Colbert, 2015; Eby, Allen, Evans, Ng, & DuBois, 2008; Kirca, Hult, Deligonul, Perryy, & Cavusgil, 2012; Viswesvaran & Ones, 1995; Viswesvaran, Schmidt, & Ones, 2002). In terms of the application of this criterion, 14.04% of the effects sizes computed herein were based upon K = 3 effect sizes, and the average number of studies defining a given zero-order meta-analytic effect reported here is approximately K = 7.

When overlapping variables were not available in at least three samples, we logically combined them into a typology of synthetic construct groupings. This was the case for nine variables considered here. Table 1 summarizes the specific operationalizations of the variables for each synthetic construct grouping. Additionally, when coding effect sizes for individual characteristics, age and tenure were conceptualized chronologically (i.e., in years). Furthermore, we considered both job (e.g., Ho & Yeung, 2016) and organizational (e.g., Barbieri et al., 2015) tenure separately in our analysis. Gender was operationalized as a dummy coded variable, such that higher values were indicative of females (i.e., 0 = male, 1 = female). Educational level was operationalized in terms of level of accomplishment, such that higher scores indicate higher levels of educational attainment. Finally, work hours were conceptualized in terms of continuous time worked (i.e., higher = more

TABLE 1 Summary of synthetic construct groupings

Synthetic construct	Included operationalizations
Achievement motivation	Achievement goal orientation Achievement striving Growth motives Motivation for job growth Need for achievement
Emotional exhaustion	Burnout Emotional exhaustion
Work continuance intentions	Continuance intentions Motivation to continue working
Self-rated physical health	General health Physical health Subjective health Work ability
Job control	Job autonomy Job control Job discretion
Learning motivation	Learning goal orientation Learning self-efficacy Motivation to learn
Perceived job demands	Perceived job demands Perceived job stress Work pressure
Work engagement	Job engagement Work engagement
Task performance	Task performance Work performance

TABLE 2 Results of zero-order meta-analysis

Individual Characteristics & Personal Resources	OFTP	*K*	*N*	r_{bar}	*SD* r_{bar}	ρ	*SD* ρ	CI_L	CI_U	%Var	CV_L	CV_U
Age	Overall	22	9,490	−0.519	0.223	−0.549	0.233	−0.650	−0.448	2.99	−0.848	−0.251
	FOO	30	15,111	−0.325	0.120	−0.344	0.120	−0.389	−0.298	11.38	−0.497	−0.190
	PRT	20	9,068	−0.553	0.206	−0.613	0.224	−0.713	−0.513	3.82	−0.900	−0.325
Job tenure	Overall	4	3,238	−0.212	0.053	−0.225	0.043	−0.280	−0.170	41.44	−0.280	−0.170
	FOO	4	3,871	−0.151	0.042	−0.162	0.030	−0.206	−0.118	55.99	−0.200	−0.123
	PRT	4	3,120	−0.226	0.049	−0.246	0.037	−0.298	−0.194	51.56	−0.293	−0.198
Organizational tenure	Overall	8	3,957	−0.232	0.128	−0.249	0.129	−0.349	−0.148	11.52	−0.414	−0.083
	FOO	9	8,466	−0.225	0.046	−0.238	0.035	−0.270	−0.207	48.61	−0.283	−0.194
	PRT	7	3,523	−0.216	0.199	−0.238	0.214	−0.400	−0.075	4.73	−0.512	0.036
Education	Overall	13	6,260	0.154	0.088	0.162	0.080	0.110	0.214	25.95	0.060	0.264
	FOO	16	7,123	0.154	0.061	0.163	0.041	0.132	0.194	58.74	0.110	0.216
	PRT	11	6,097	0.101	0.078	0.111	0.072	0.060	0.162	29.18	0.019	0.204
Self-rated physical health	Overall	8	4,439	0.149	0.086	0.162	0.082	0.097	0.227	24.34	0.058	0.267
	FOO	8	4,189	0.117	0.081	0.128	0.075	0.067	0.190	29.00	0.032	0.225
	PRT	6	3,972	0.133	0.063	0.148	0.055	0.092	0.204	37.86	0.078	0.219
Gender	Overall	18	10,078	0.045	0.059	0.048	0.044	0.019	0.077	50.93	−0.008	0.104
	FOO	21	12,438	−0.006	0.038	−0.006	0.000	−0.023	0.011	100.00	−0.023	0.011
	PRT	15	7,662	0.054	0.064	0.059	0.052	0.023	0.095	47.20	−0.007	0.125
Job characteristics	**OFTP**	***K***	***N***	r_{bar}	*SD* r_{bar}	ρ	*SD* ρ	CI_L	CI_U	%Var	CV_L	CV_U
Work hours	Overall	4	3,303	0.097	0.057	0.102	0.048	0.043	0.161	36.39	0.041	0.163
	FOO	4	3,303	0.120	0.044	0.127	0.029	0.082	0.173	62.11	0.091	0.164
	PRT	4	3,303	0.048	0.047	0.052	0.035	0.001	0.102	54.09	0.007	0.096
Job demands	Overall	4	2,912	0.008	0.067	0.009	0.064	−0.066	0.084	30.50	−0.073	0.091
	FOO	3	2,820	0.057	0.043	0.064	0.032	0.009	0.120	56.41	0.023	0.106
Job complexity	Overall	4	3,190	0.027	0.017	0.031	0.000	0.011	0.051	100.00	0.011	0.051
	FOO	6	3,491	0.031	0.066	0.037	0.061	−0.026	0.100	39.54	−0.042	0.115
	PRT	4	3,190	0.028	0.047	0.034	0.039	−0.023	0.092	56.09	−0.015	0.084
Job autonomy	Overall	5	3,881	0.185	0.061	0.218	0.058	0.154	0.281	35.25	0.143	0.292
	FOO	7	4,171	0.210	0.063	0.240	0.055	0.187	0.293	41.27	0.170	0.311
	PRT	4	3,713	0.095	0.063	0.112	0.064	0.038	0.186	26.89	0.030	0.195
Job attitudes, motivations, & well-being outcomes	**OFTP**	***K***	***N***	r_{bar}	*SD* r_{bar}	ρ	*SD* ρ	CI_L	CI_U	%Var	CV_L	CV_U
Job satisfaction	Overall	6	3,753	0.251	0.034	0.281	0.000	0.251	0.312	100.00	0.251	0.312
	FOO	8	8,700	0.354	0.052	0.401	0.050	0.360	0.442	30.01	0.337	0.465
	PRT	5	3,454	0.132	0.042	0.153	0.021	0.111	0.196	81.66	0.127	0.180
Organizational commitment	FOO	5	4,617	0.360	0.049	0.412	0.038	0.363	0.460	53.73	0.363	0.460
Work engagement	Overall	5	4,023	0.207	0.022	0.224	0.000	0.206	0.242	100.00	0.206	0.242
	FOO	9	8,115	0.303	0.059	0.336	0.055	0.293	0.378	28.37	0.265	0.407
	PRT	5	4,023	0.108	0.031	0.119	0.000	0.089	0.150	100.00	0.089	0.150
Emotional exhaustion	Overall	4	3,684	−0.165	0.058	−0.186	0.055	−0.251	−0.122	30.91	−0.256	−0.116
	FOO	4	3,791	−0.139	0.057	−0.157	0.054	−0.221	−0.094	31.39	−0.226	−0.088
	PRT	3	3,571	−0.135	0.025	−0.155	0.000	−0.188	−0.123	100.00	−0.188	−0.123
Retirement intentions	Overall	4	3,165	−0.333	0.074	−0.367	0.074	−0.448	−0.287	18.13	−0.462	−0.272
	FOO	4	3,165	−0.253	0.065	−0.284	0.062	−0.355	−0.213	26.83	−0.363	−0.204
	PRT	4	3,165	−0.356	0.076	−0.399	0.078	−0.482	−0.315	17.04	−0.498	−0.299
Work continuance intentions	Overall	5	3,147	0.138	0.063	0.155	0.055	0.093	0.217	39.23	0.084	0.225
	FOO	7	5,024	0.180	0.091	0.202	0.093	0.126	0.277	16.33	0.083	0.321
	PRT	4	2,979	0.084	0.051	0.094	0.040	0.038	0.149	50.82	0.043	0.145
Achievement motivation	Overall	3	2,607	0.181	0.053	0.200	0.047	0.133	0.267	37.96	0.140	0.260
	FOO	3	908	0.318	0.185	0.368	0.205	0.125	0.610	8.07	0.105	0.631
Learning motivation	PRT	3	1,238	0.319	0.046	0.385	0.000	0.322	0.448	100.00	0.322	0.448
Job performance outcomes	**OFTP**	***K***	***N***	r_{bar}	*SD* r_{bar}	ρ	*SD* ρ	CI_L	CI_U	%Var	CV_L	CV_U
Task performance	Overall	3	2,867	0.090	0.031	0.105	0.000	0.064	0.146	100.00	0.064	0.146
	FOO	5	3,271	0.104	0.047	0.121	0.029	0.074	0.169	71.14	0.084	0.159
	PRT	3	2,867	0.041	0.041	0.048	0.030	−0.006	0.103	61.70	0.010	0.087
Contextual performance	Overall	7	4,086	0.181	0.052	0.202	0.036	0.157	0.246	61.00	0.155	0.248
	FOO	7	4,121	0.240	0.055	0.281	0.043	0.233	0.329	56.17	0.226	0.336
	PRT	6	3,795	0.107	0.025	0.126	0.000	0.102	0.150	100.00	0.102	0.150
Related lifespan developmental constructs	**OFTP**	***K***	***N***	r_{bar}	*SD* r_{bar}	ρ	*SD* ρ	CI_L	CI_U	%Var	CV_L	CV_U
SOC strategy use	Overall	4	3,936	0.122	0.109	0.150	0.127	0.019	0.280	8.93	−0.013	0.313
	FOO	4	3,667	0.158	0.148	0.185	0.169	0.015	0.355	4.78	−0.032	0.401
	PRT	3	3,534	0.076	0.035	0.089	0.023	0.043	0.136	68.71	0.060	0.119

Note. OFTP = occupational future time perspective; SOC = selection, optimization, and compensation; Overall = overall OFTP; FOO = focus on opportunities; PRT = perceived remaining time. *K* = cumulative number of studies; *N* = cumulative sample size; r_{bar} = sample-size weighted meta-analytic correlation; *SD* r_{bar} = standard deviation of r_{bar}; ρ = sample size-weighted and reliability-corrected meta-analytic correlation; SD_ρ = standard deviation of ρ; CI = 95% confidence interval for ρ; %var = variance attributable to statistical artifacts (sampling error & unreliability); CV = 80% credibility interval for ρ.

work hours/week). A table in the Appendix (Table A1) outlines those constructs coded from the K = 38 studies considered here.

6.4 | Meta-analytic procedure

Following our comprehensive literature search, the first and third authors worked together to complete the coding of primary studies by applying the *a priori* determined inclusion and exclusion criteria outlined above. Coding correlations and reliabilities directly from primary studies is a "low inference" process (Cooper, 1998, p. 30) that does not require subjective judgments (Hunter & Schmidt, 2004; Whetzel & McDaniel, 1988). Accordingly, there were very few disagreements encountered during the coding process. Additionally, the coding team held weekly calibration meetings, and the few disagreements encountered during such meetings were discussed until agreement was reached via consensus.

Although several approaches to meta-analysis exist, we followed Hunter and Schmidt's (2004) methods. These procedures allow for the correction of observed correlations for sampling and measurement errors, and combine effect size estimates using random-effects estimation procedures. As a first step, this procedure corrects for sampling error by calculating sample size-weighted correlations. Second, where possible (i.e., for multi-item scales), corrections for the lack of perfect reliability are applied, as it is well-established that unreliability attenuates zero-order correlations (Hunter & Schmidt, 2004). To accomplish these corrections, artifact distributions were constructed and applied for cases in which a study did not report the reliability estimate for a given construct (Hunter & Schmidt, 2004).

Beyond the sample-size weighted correlation (r_{bar}) and the sample size-weighted and reliability-corrected correlation (rho, ρ), we computed 95% confidence intervals and the 80% credibility interval for each ρ, as well as the percent of variance in ρ that is attributable to statistical artifacts (% var). A sample size-weighted and reliability-corrected correlation is considered to be statistically significant when its associated confidence interval does not include zero. If an 80% credibility interval includes zero, this may indicate the presence of moderators (Geyskens, Krishnan, Steenkamp, & Cunha, 2009). Alternatively, Hunter and Schmidt (2004) offer "the 75% rule" (i.e., a moderator is likely to be present when the percentage of variance accounted for by statistical artifacts is <75%).

7 | RESULTS

Table 2 contains the results of the primary meta-analysis of zero-order correlations between OFTP and its antecedents and outcomes as defined by our model (see Figure 1). Table 3 summarizes the supplementary meta-analysis of intercorrelations among OFTP dimensions. Because of the relatively large number of zero-order relationships considered in our primary analysis, we largely focus our summary of these results on the overall OFTP relationships, unless such relationships were not represented in the literature (i.e., as was the case for organizational commitment and learning motivation, which were represented only by specific OFTP dimensions). Beyond the associations involving overall OFTP and other constructs considered here, it is also important to recognize that in a number of cases, notably stronger relationships (i.e., in terms of their absolute magnitude and the amount of variance accounted for in a bivariate sense) were observed for specific OFTP dimensions. Thus, as relevant, we additionally summarize notable differential dimension-level relationships. Unless otherwise noted, the relationships reported next were statistically significant (p < .05).

7.1 | Relationship between dimensions of OFTP

Consistent with past research (e.g., Froehlich et al., 2016; Weikamp & Göritz, 2015), the meta-analysis of intercorrelations between OFTP dimensions (see Table 3) suggests that perceived remaining time and focus on opportunities are strongly and positively correlated (ρ = 0.72).

7.2 | Antecedents of OFTP

7.2.1 | Individual characteristics and personal resources

Age (ρ = −0.55), job tenure (ρ = −0.23), and organizational tenure (ρ = −0.25) were all negatively related to OFTP. Age was more strongly related to perceived remaining time (ρ = −0.61) than focus on opportunities (ρ = −0.34), explaining over twice the variance in OFTP (i.e., 37.58% vs. 11.83%, respectively). Educational level was positively associated with OFTP (ρ = 0.16). Likewise, self-rated physical health was positively related to OFTP (ρ = 0.16). With respect to the relationship between OFTP and gender, there was evidence for a small yet significant gender difference in OFTP (ρ = 0.05), suggesting that women have a slightly more expansive OFTP than men. However, this only holds for perceived remaining time, and should be interpreted with caution given critiques of the implications of such gender effects in meta-analytic reviews (e.g., Hyde, 2005).

7.2.2 | Job characteristics

Job complexity (ρ = 0.03) and job autonomy (ρ = 0.15) were both positively related to OFTP. Importantly, job autonomy was more strongly related to focus on opportunities (ρ = 0.24) than perceived remaining time (ρ = 0.11), explaining over four times more variance in OFTP (5.76% vs. 1.25%). Considering the relationships with job characteristics, there was a small positive association observed between OFTP and work hours (ρ = 0.10) and a non-significant association observed between OFTP and job demands (ρ = 0.01, 95% CI [−.07, .08]).

TABLE 3 Results of OFTP dimension meta-analysis (focus on opportunities & perceived remaining time)

OFTP	K	N	r_{bar}	SD r_{bar}	ρ	SD ρ	CI_L	CI_U	%Var	CV_L	CV_U
FOO–PRT	16	7,549	0.617	0.109	0.718	0.119	0.656	0.781	13.186	0.566	0.870

Note. OFTP = occupational future time perspective; FOO = focus on opportunities; PRT = perceived remaining time. K = cumulative number of studies; N = cumulative sample size; r_{bar} = sample-size weighted meta-analytic correlation; $SD\ r_{bar}$ = standard deviation of r_{bar}; ρ = sample size-weighted and reliability-corrected meta-analytic correlation; SD_ρ = standard deviation of ρ; CI = 95% confidence interval for ρ; %var = variance attributable to statistical artifacts (sampling error & unreliability); CV = 80% credibility interval for ρ.

7.3 | Outcomes of OFTP

7.3.1 | Job attitudes, motivation, and well-being outcomes

OFTP was associated with higher job satisfaction (ρ = 0.28), work engagement (ρ = 0.22), work continuance intentions (ρ = 0.15), and achievement motivation (ρ = 0.20). Job satisfaction was more strongly related to focus on opportunities (ρ = 0.40) than perceived remaining time (ρ = 0.15), explaining nearly seven times more variance in OFTP (16.08% vs. 2.34%). Similarly, work engagement was more strongly related to focus on opportunities (ρ = 0.34) than perceived remaining time (ρ = 0.12), explaining nearly eight times more variance in OFTP (11.28% vs. 1.41%). OFTP was also associated with lower retirement intentions (ρ = −0.37) and lower emotional exhaustion (ρ = −0.19). Although we also considered organizational commitment, studies that included this outcome have only measured focus on opportunities (ρ = 0.41). Likewise, we also considered learning motivation, but studies that included this outcome have only considered perceived time remaining (ρ = 0.38).

7.3.2 | Job performance outcomes

OFTP was positively associated with task performance (ρ = 0.11) and contextual performance (ρ = 0.20). At the dimension level, only focus on opportunities was significantly associated with task performance (ρ = 0.12). Focus on opportunities was more strongly related to contextual performance (ρ = 0.28) than perceived remaining time (ρ = 0.13), explaining nearly five times more variance in OFTP (7.90% vs. 1.59%).

7.3.3 | Related lifespan developmental constructs

OFTP was positively related to SOC strategy use (ρ = 0.15). Focus on opportunities was more strongly related to SOC strategy use (ρ = 0.19) than perceived remaining time (ρ = 0.09), and explained approximately four times more variance in OFTP (3.42% vs. .08%).

7.4 | Meta-analytic regression and path analysis models

We further explore whether OFTP predicts important work outcomes above and beyond the effects of employee age and SOC strategy use. We conducted a series of regression and path analyses based upon a constructed meta-analytic correlation matrix (see Table 4) to test the unique relationships of OFTP against age and SOC strategy use. To facilitate testing these models, we focused on the four outcomes that were investigated in both the present manuscript and the recent Moghimi et al. (2017) meta-analysis of SOC strategy use relationships (i.e., job satisfaction, work engagement, emotional exhaustion, and task performance).

Previous meta-analytic evidence supports relationships between age and three of these four outcomes (i.e., job satisfaction, Ng & Feldman, 2010; task performance, Ng & Feldman, 2008; emotional exhaustion, Brewer & Shapard, 2004). However, there has not as-of-yet been a meta-analysis of the work engagement literature that has considered age–engagement relationships. To support this analysis, we conducted a bare-bones meta-analysis of such relationships (K = 31; N = 26,751; r = 0.12, p < .05) via the MetaBus database (Bosco, Steel, Oswald, Uggerslev, & Field, 2015). We searched this database

TABLE 4 Meta-analytic correlation table and sources of meta-analytic correlations

	Age	OFTP	SOC	Emotional exhaustion	Job satisfaction	Task performance	Work engagement
Age	1.00	Current–main analysis N = 9,490; K = 22	Moghimi et al. (2017) N = 9,613; K = 10	Brewer et al. (2004) N = 10,818; K = 35	Ng et al. (2010) N = 151,105; K = 388	Ng et al. (2008) N = 17,807; K = 52	Current–ad hoc analysis N = 26,751; K = 31
OFTP	r_{bar} = −0.52	1.00	Current–main analysis N = 3,936; K = 4	Current–main analysis N = 3,684; K = 4	Current–main analysis N = 3,753; K = 6	Current–main analysis N = 2,867; K = 3	Current–main analysis N = 4,023; K = 5
SOC	r_{bar} = 0.04	r_{bar} = 0.12	1.00	Moghimi et al. (2017) N = 3,719; K = 9	Moghimi et al. (2017) N = 4,001; K = 11	Moghimi et al. (2017) N = 3,110; K = 10	Moghimi et al. (2017) N = 5,385; K = 11
Emotional exhaustion	r_{bar} = −0.16	r_{bar} = −0.17	r_{bar} = 0.01	1.00	Lee and Ashforth (1996) N = 4,000; K = 17	Swider and Zimmerman (2010) N = 4,602; K = 14	Crawford et al. (2010) N = 25,998; K = 54
Job satisfaction	r_{bar} = 0.18	r_{bar} = 0.25	r_{bar} = 0.21	r_{bar} = −0.26	1.00	Iaffaldano and Muchinsky (1985) N = 12,192; K = 217	Christian et al. (2011) N = 9,725; K = 20
Task performance	r_{bar} = 0.06	r_{bar} = 0.09	r_{bar} = 0.19	r_{bar} = −0.13	r_{bar} = 0.15	1.00	Christian et al. (2011) N = 4,562; K = 14
Work engagement	r_{bar} = 0.12	r_{bar} = 0.21	r_{bar} = 0.34	r_{bar} = −0.39	r_{bar} = 0.46	r_{bar} = 0.36	1.00

Note. K = cumulative number of studies; N = sample size; r_{bar} = sample-size weighted meta-analytic correlation. Sources of metaanalytic correlations appear above diagonal.

for the keywords "age" and "work engagement." This search initially yielded K = 35 studies, of which four studies were excluded because they were duplicate records. This *ad hoc* analysis allowed us to complete this missing cell of the meta-analytic correlation matrix and thus specify these models. Additionally, because the results of our meta-analysis of the relationship among OFTP dimensions suggested a strong association between perceived remaining time and focus on opportunities, we specified such models with overall OFTP relationships rather than these two dimensions to avoid issues associated with multicollinearity. Finally, as suggested by Viswesvaran and Ones (1995), the sample size for each regression model was the harmonic mean of the sample size across the relevant correlations considered.

To support conclusions about the unique predictive role of OFTP in these models, we also conducted relative weights analyses (see Johnson, 2000). When predictors are correlated, the relative contribution of each to the model R^2 cannot be determined by examining the partial regression weights alone (LeBreton, Ployhart, & Ladd, 2004). Relative weights analysis computes both relative weights and rescaled relative weights: relative weights reflect the proportion of variance explained in an outcome that is attributed to each of the predictors, whereas the rescaled relative weights reflect the percentage of explained variance that is accounted for by each predictor variable (i.e., calculated by dividing the relative weights by the model R^2; LeBreton, Hargis, Griepentrog, Oswald, & Ployhart, 2007).

A summary of formal tests of incremental effects of OFTP above-and-beyond age and SOC (i.e., in terms of change in R^2) can be found in Table 5. To address such effects, we first regressed each outcome onto age and SOC on step one of a hierarchical regression model, and then included OFTP on step two. Changes in variance explained (ΔR^2) between these two models are indexed by a significant $F_{partial}$, which would suggest that OFTP explains an appreciable amount of additional variance compared to the model that solely specifies the effects of age and SOC. Of note, OFTP additionally accounted for between 1.27% and 13.99% of the variance in outcomes above and beyond age and SOC. Table 6 summarizes each "step two" model referenced above, including specific parameters for age, SOC, and OFTP, and raw and rescaled relative weights.

Additionally, speaking to the incremental role of OFTP, the model term representing the effect of OFTP was statistically significant (p < .001) in each model depicted in Table 6. Together, this evidence suggests that OFTP is incrementally important when considered in tandem with age and SOC. Beyond the statistical significance of OFTP in these models, the relative weights analyses reported in Table 6 suggest that OFTP accounts for an appreciable amount of the variance observed in job satisfaction (%R^2 = 48.34%), emotional exhaustion (%R^2 = 51.00%), and work engagement (%R^2 = 50.64%). However, SOC was a more important predictor of task performance (%R^2 = 63.64%) than OFTP (%R^2 = 21.27%).

TABLE 5 Tests of incremental effects of OFTP above and beyond age and SOC

	Model 1 R^2	Model 2 R^2	ΔR^2	ΔR^2%	$F_{partial}$	p
Emotional exhaustion	0.026	0.118	0.092	9.180	569.133	<.001
Job satisfaction	0.074	0.214	0.140	13.989	1081.476	<.001
Task performance	0.039	0.052	0.013	1.265	67.255	<.001
Work engagement	0.123	0.195	0.071	7.136	568.311	<.001

Note. Model 1 = Age + SOC; Model 2 = Age + SOC + OFTP. R^2 = variance explained. ΔR^2 = change in R^2 from Model 1 to Model 2; ΔR^2% = change in R^2 from Model 1 to Model 2 expressed as a percentage; $F_{partial}$ = inferential test of ΔR^2/ ΔR^2%; p = observed probability of $F_{partial}$. For any given outcome, a statistically significant $F_{partial}$ (p < .05) suggests that OFTP incrementally predicts variance above and beyond the influence of age and SOC. OFTP = occupational future time perspective; SOC = selection, optimization, and compensation.

TABLE 6 Results of relative weights analysis

Emotional exhaustion	**Predictor**	***B***	***SE*$_B$**	***t*-value**	***p***	**RW**	**%R^2**
R^2 = .118	Age	−0.349	0.015	−23.336	<.001	0.056	47.883
F = 243.040, p < .001	SOC	0.065	0.013	5.078	<.001	0.001	1.117
	OFTP	−0.360	0.015	−23.854	<.001	0.060	51.000
Job satisfaction	**Predictor**	***B***	***SE*$_B$**	***t*-value**	***p***	**RW**	**%R^2**
R^2 = .214	Age	0.405	0.013	30.233	<.001	0.077	36.086
F = 550.407, p < .001	SOC	0.141	0.012	12.249	<.001	0.033	15.574
	OFTP	0.444	0.013	32.883	<.001	0.103	48.340
Task performance	**Predictor**	***B***	***SE*$_B$**	***t*-value**	***p***	**RW**	**%R^2**
R^2 = .052	Age	0.123	0.016	7.602	<.001	0.008	15.098
F = 91.969, p < .001	SOC	0.170	0.014	12.239	<.001	0.033	63.635
	OFTP	0.133	0.016	8.200	<.001	0.011	21.267
Work engagement	**Predictor**	***B***	***SE*$_B$**	***t*-value**	***p***	**RW**	**%R^2**
R^2 = .195	Age	0.272	0.013	20.583	<.001	0.036	18.438
F = 516.726, p < .001	SOC	0.317	0.013	23.837	<.001	0.060	30.925
	OFTP	0.287	0.011	25.213	<.001	0.099	50.637

Note. OFTP = occupational future time perspective; SOC = selection, optimization, and compensation; R^2 = variance explained; F = omnibus test of model significance. B = regression weight; SE_B = standard error for B; RW = raw relative weight; %R^2 = rescaled raw relative weight as a percent of total variance explained by model.

We further conducted a meta-analytic path model to test the competing effects of SOC and OFTP as mediators of the relationship between age and the same four outcomes. Recent developments concerning successful aging at work have called for the testing of process models that include age-related mediators, such as OFTP and SOC (Zacher, 2015). Thus, this model represents a novel test of the notion of successful aging with meta-analytic data. Table 7 summarizes model parameters, and Table 8 summarizes indirect effects and Monte Carlo confidence intervals (Preacher & Selig, 2012) of age on the four outcomes through OFTP and SOC. The model fits the data well (Chi-Square = 153.11, $p < .001$; CFI = .98; SRMR = .03). Age was associated with lower OFTP ($B = -0.52$, $R^2 = .27$) and somewhat higher SOC ($B = 0.04$, $R^2 = .001$). Consistent with the results of the multiple regression analyses, OFTP was associated with lower emotional exhaustion, as well as higher job satisfaction, work engagement, and task performance.

Extending these results, this model further suggests that OFTP partially mediates all of the pathways between age and the four outcomes when controlling for the parallel effects of SOC. Past meta-analytic evidence suggests that age is associated with lower levels of emotional exhaustion (Brewer & Shapard, 2004), and higher levels of job satisfaction (Ng & Feldman, 2010) and task performance (Ng & Feldman, 2008). Furthermore, our *ad hoc* meta-analysis suggests that age is positively related to work engagement. However, these meta-analytic relationships are all of a modest magnitude. The inconsistent indirect effects of age on these outcomes through OFTP may account for these modest relationships (MacKinnon, Fairchild, & Fritz, 2007). Taken together, these results suggest that OFTP is an age-related mediator for explaining variance in these important work outcomes.

8 | DISCUSSION

Our primary goal with this meta-analysis was to examine the nomological network of associations between OFTP and individual and job characteristics, as well as various important work outcomes. In addition, we aimed to examine the unique predictive validity of OFTP above and beyond chronological age and SOC strategy use, and to examine the indirect associations of age with work outcomes through OFTP. We found that age, as well as job and organizational tenure, are negatively associated with OFTP. Moreover, educational level, self-rated physical health, number of work hours, job complexity, and job autonomy were positively associated with OFTP. We further found that OFTP has positive associations with job satisfaction, work engagement, work continuance intentions, and achievement motivation, as well as task and contextual performance. In contrast, OFTP was negatively related to retirement intentions and emotional

TABLE 7 Results of path analysis

A-paths	Predictor	Outcome	*B*	SE_B	*z*-value	*p*	95% CI lower	95% CI upper
	Age	OFTP (R^2 = .270)	−0.520	0.011	−45.695	<.001	−0.542	−0.498
		SOC (R^2 = .001)	0.038	0.013	2.854	.004	0.012	0.064
B-paths	**Predictor**	**Outcome**	***B***	SE_B	***z*-value**	***p***	**95% CI lower**	**95% CI upper**
	OFTP	Emotional exhaustion (R^2 = .123)	−0.360	0.015	−24.542	<.001	−0.388	−0.331
	SOC		0.065	0.013	5.224	<.001	0.041	0.090
	Age		−0.349	0.015	−23.840	<.001	−0.378	−0.321
	OFTP	Job satisfaction (R^2 = .200)	0.444	0.014	32.092	<.001	0.417	0.471
	SOC		0.141	0.012	11.954	<.001	0.118	0.165
	Age		0.405	0.014	29.298	<.001	0.378	0.433
	OFTP	Task performance (R^2 = .046)	0.133	0.015	8.790	<.001	0.104	0.163
	SOC		0.170	0.013	13.119	<.001	0.145	0.196
	Age		0.123	0.015	8.091	<.001	0.093	0.153
	OFTP	Work engagement (R^2 = .174)	0.317	0.014	22.650	<.001	0.290	0.344
	SOC		0.287	0.012	23.956	<.001	0.263	0.310
	Age		0.272	0.014	19.420	<.001	0.245	0.299

Note. OFTP = occupational future time perspective; SOC = selection, optimization, and compensation; R^2 = variance explained; *B* = regression weight; SE_B = standard error for *B*; *95% CI* = 95% confidence interval for *B*.

TABLE 8 Summary of indirect effects

Summary of IE	*IE*	SE_{IE}	*z*-value	*p*	95% CI lower	95% CI upper
Age *to* OFTP *to* emotional exhaustion	0.187	0.009	21.621	<.001	0.170	0.204
Age *to* OFTP *to* job satisfaction	−0.231	0.009	−26.262	<.001	−0.248	−0.214
Age *to* OFTP *to* task performance	−0.069	0.008	−8.632	<.001	−0.085	−0.054
Age *to* OFTP *to* work engagement	−0.165	0.008	−20.294	<.001	−0.181	−0.149
Age *to* SOC *to* emotional exhaustion	0.002	0.001	2.505	.012	0.001	0.004
Age *to* SOC *to* job satisfaction	0.005	0.002	2.776	.005	0.002	0.009
Age *to* SOC *to* task performance	0.006	0.002	2.789	.005	0.002	0.011
Age *to* SOC *to* work engagement	0.011	0.004	2.834	.005	0.003	0.018

Note. OFTP = occupational future time perspective; SOC = selection, optimization, and compensation; *IE* = indirect effect (i.e., product term of corresponding "A" and "B" path coefficients from Table 7); SE_{IE} = standard error for *IE*; 95% CI = Monte Carlo confidence intervals for *IE*.

exhaustion. Organizational commitment was only positively associated with focus on opportunities, and learning motivation was only positively associated with remaining time; studies considering these outcomes only measured focus on opportunities and remaining time. We further found that OFTP was associated with four outcomes (i.e., job satisfaction, work engagement, emotional exhaustion, and task performance) above and beyond the effects of chronological age and SOC strategy use, and that OFTP partially mediates the associations between age and these outcomes when statistically controlling for parallel effects of SOC strategy use.

8.1 | Theoretical contributions

With our meta-analysis, we contribute to the organizational behavior literature in several ways. First, we demonstrate that OFTP, a temporal construct, is associated with work engagement, task performance, and retirement intentions. These are important work outcomes in a contemporary society in which longer working lives are becoming the norm. Consistent with theories on possible selves (Markus & Nurius, 1986), positive future thinking (Oettingen & Mayer, 2002), and self-regulation (Bandura, 2006), we found that individuals with a positive view on their occupational future have more positive job attitudes, higher motivation and well-being, and better job performance. Individuals with high OFTP seem to be optimistic people with a clearer image of their future selves, and thus, they may be more likely to set high standards and aspirations, as well as to engage in successful cognitive and self-regulatory problem solving and behavior aimed at reaching future goals (Oettingen & Mayer, 2002).

Second, we examined potential antecedents of OFTP to gain insight into the individual and job characteristics that may be associated with OFTP. We demonstrate that particularly other time-related factors, such as age, job tenure, and organizational tenure, are related to OFTP. The older employees are and the more time they have spent in their jobs and organizations, the shorter they perceive their remaining time and the more constraints they perceive for their future opportunities at work. Further, consistent with propositions of Hobfoll's (1989) conservation of resources theory, we found that individual resources, such as higher educational level and self-related physical health, as well as job resources, such as high levels of job autonomy and complexity, seem to help employees maintain higher levels of perceived remaining time and focus on opportunities.

Third, we contribute to the growing literature on successful aging at work (Zacher, 2015) by demonstrating that OFTP mediates associations between age and work outcomes. Similar to SOC strategy use, OFTP can be considered as a lifespan developmental regulating mechanism; although age is generally negatively related to OFTP, those who maintain favorable perceptions of their occupational future seem to be more likely to stay engaged and healthy and to perform well at work. In contrast, older workers with low OFTP are more likely to experience lower work engagement, more emotional exhaustion, and poorer performance. Recent theoretical developments regarding the notion of successful aging at work have called for the testing of process models that include age-related mediators (Zacher, 2015). Answering this call, we reveal that OFTP explains why some work outcomes may decrease with age. Moreover, our findings show that OFTP is a unique developmental mechanism that has incremental predictive validity above and beyond age and SOC strategy use. This finding answers another recent call in the literature on work and aging to consider competing lifespan developmental mechanisms simultaneously (Rudolph, 2016). Specifically, our results suggest that OFTP is a unique entity within the larger nomological network of developmental constructs that may be relevant for the work context.

Finally, although research on OFTP typically distinguishes between perceived remaining time and focus on opportunities as two distinct dimensions of OFTP, we found that these dimensions are strongly and positively associated with one another. This finding may suggest that these two dimensions could be combined in future research into an overall OFTP score. Observing the overlap between confidence intervals displayed in Table 2, we do note that there are notable differences in the strength of the relationships between these two OFTP dimensions and several variables included in our meta-analysis (e.g., age, job autonomy, job satisfaction, work engagement). However, as these comparisons are not necessarily independent, some caution should be exercised in interpreting these differences.

8.2 | Practical implications

In addition to these theoretical contributions, our findings have a number of practical implications. First, we demonstrate the importance of perceiving a long occupational future filled with opportunities for organizations (e.g., task performance), individual employees (e.g., work engagement), and governments and societies (e.g., retirement intentions). The OFTP construct should thus be high on the agendas of both organizations and governments. These findings are even more important considering the rapidly aging workforce in most countries around the globe and the finding that OFTP mediates associations of age with important work outcomes. By extending workers' OFTP, organizations and governments can help them age more successfully at work. In addition, our work provides HR managers with ideas on how to extend OFTP. One possible strategy could be to redesign jobs such that jobs become more autonomous and complex (i.e., challenging). Another strategy is to improve worker physical health, which could be accomplished by implementing vitality programs.

8.3 | Limitations and future research agenda

Our meta-analysis has considerable strengths, but, nevertheless, we also acknowledge certain limitations of this work. First, we were only able to include variables in our meta-analysis that have been considered in past empirical research. This particularly limited our insight into antecedents of OFTP. Although we found that a number of individual and job resources are positively associated with OFTP, other individual resources, such as certain personality traits (cf. Zacher & Frese, 2009) or socioeconomic status, and other job resources, such as supervisor support or opportunities for development, could be important antecedents of OFTP as well. In addition to these variables, future research could examine the role of organizational level factors, such as HR practices (e.g., career planning and vitality programs) or the climate within

the organization (e.g., age-diversity climate, Boehm, Kunze, & Bruch, 2014; see also Zacher & Yang, 2016), and constraining job factors, such as hindering job demands and negative life events. Related to this, although the OFTP construct is grounded in socioemotional selectivity theory, which posits age-related dynamics in emotion regulation capacities across the lifespan (Carstensen, 1991, 2006), little to no research has investigated links between OFTP and emotion regulation at work. Accordingly, future research must endeavor to test such links.

Second, most studies that are included in our meta-analysis used research designs with self-reports to measure OFTP, antecedents, and work outcomes, which can potentially lead to common method bias. Future studies should include more objective measures, such as supervisor or colleague ratings, particularly to measure job performance outcomes. Third, our meta-analysis is inconclusive about the role of OFTP dimensions. As noted earlier, future researchers could consider combining perceived remaining time and focus on opportunities into an overall OFTP score, as our meta-analysis showed that these two dimensions are strongly correlated. On the other hand, differences in the strength of the relationships of the two OFTP dimensions with several variables also suggest that future research would be well served to focus on predictions related to these specific dimensions, rather than solely upon the overall conceptualization of OFTP. In addition, it would be important to clarify the role of a third OFTP dimension, focus on limitations, that has so far only been investigated in few studies within (Zacher, 2013) and outside of the work context (Cate & John, 2007).

Fourth, because most studies included in our meta-analysis used cross-sectional (i.e., single time point) research designs, we cannot draw any conclusions about causality. Although we propose that individual and job characteristics, such as self-rated physical health and job autonomy, are antecedents of OFTP, it is possible that OFTP serves as a resource to obtain other resources such as self-rated health and greater autonomy at work. Likewise, although we propose that OFTP predicts worker outcomes, such as work engagement and job performance, it might be that employees who are more engaged or perform better at work create and receive more opportunities at work, hence, increasing their OFTP. To address these limitations, researchers should conduct intervention studies and use longitudinal research designs to be able to draw conclusions about causal relationships between OFTP and its potential antecedents and outcomes. Intervention studies are important, as they would allow us to examine whether it is possible to develop workshops or trainings that enhance employees' OFTP. Studies in the lifespan developmental literature on general FTP have shown that FTP can be manipulated (e.g., Fung, Carstensen, & Lutz, 1999). Considering this, future studies could examine whether OFTP can be manipulated experimentally as well.

Furthermore, longitudinal studies are important to capture the development of OFTP over time. Conducting longitudinal research across the adult lifespan is both a costly and time-intensive endeavor and, therefore, it is perhaps not surprising that so few studies adopt such research designs in the literature on work and aging (see Ng & Feldman, 2008). Indeed, of the studies included in our meta-analysis, only two adopted multi-wave designs (Kooij & Zacher, 2016; Schmitt, Gielnik, et al., 2013), and only one true longitudinal design with more than two measurement waves (Weikamp & Göritz, 2015). To overcome the practical difficulties associated with longitudinal research, future studies may consider how OFTP changes across shorter periods of time, especially for individuals who are faced with critical work transitions (e.g., occupational changes, retirement), and how various positive and negative career events may differentially impact younger, middle-aged, and older workers' OFTP.

The general reliance on cross-sectional methodologies in this literature is also a limitation to the interpretation of the path model we present herein (see Maxwell & Cole, 2007; Maxwell, Cole, & Mitchell, 2011). Accordingly, these results must be interpreted with caution, and the parameters reported for this model are best thought of as summary effects. Despite noted limitations, tests of process models in meta-analysis are common (e.g., Michel, Mitchelson, Pichler, & Cullen, 2010), and the relative merits of these procedures have been likewise supported (e.g., Shadish, 1996; Viswesvaran & Ones, 1995). Future research should attempt more formal tests of the implied causal process that is represented by our path analysis.

Finally, our relative weights analyses suggest important patterns of differential influence when contrasting the amount of variance explained by OFTP versus SOC. Stronger relationships between SOC and task performance (relative to the contributions of OFTP) and stronger relationships between OFTP and job satisfaction, work engagement, and emotional exhaustion (relative to the contributions of SOC) point to the potential for separate yet complimentary performance and well-being/motivation enhancing mechanisms. Although this is speculative, more research concerning the dual roles of SOC as a performance facilitating mechanism and OFTP as a motivational and well-being facilitating mechanism is thus warranted on the basis of these results, and the concomitant evidence from the dual-mediator path model tested herein.

9 | CONCLUSION

This meta-analysis examined antecedents and outcomes of OFTP, a temporal construct of increasing importance in the context of an aging workforce. In line with lifespan and organizational psychology theories, we found that age, as well as job and organizational tenure, are negatively associated with OFTP, and that educational level, self-rated physical health, number of work hours, job complexity, and job autonomy are positively associated with OFTP. Moreover, OFTP had positive associations with important job attitudes, motivations, and well-being outcomes, such as work engagement and work continuance intentions, and with job performance outcomes, such as task performance. In addition, we found that OFTP predicted these outcomes above and beyond the effects of chronological age and SOC strategy use. Finally, we showed that OFTP partially mediated the associations between age and these outcomes when controlling for parallel effects of SOC. These findings demonstrate that OFTP is a unique developmental mechanism and emphasize the importance of OFTP in the work context.

One final observation bears consideration here as well. Our literature search revealed that the first author of the initial study published on OFTP (Zacher & Frese, 2009) was involved in a notable proportion of the published and unpublished studies that we included in our meta-

analysis (see Table A1). As our findings suggest that OFTP has meaningful relationships with several important work outcomes, we believe that the time is ripe for other researchers and research teams to conduct studies on OFTP to gain an even better understanding of its nomological network and practical relevance. Thus, as a closing point, we would like to formally call for such enhanced lines of inquiry into OFTP.

ORCID

Cort W. Rudolph http://orcid.org/0000-0002-0536-9638
Dorien T. A. M. Kooij http://orcid.org/0000-0002-3677-6404
Rachel S. Rauvola http://orcid.org/0000-0003-0884-4622
Hannes Zacher http://orcid.org/0000-0001-6336-2947

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Note: References with an asterisk (*) were included in our meta-analysis; Superscript "TC" indicates thesis circle membership.

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Cort W. Rudolph is Assistant Professor of Industrial and Organizational Psychology at Saint Louis University. His research focuses on a variety of issues related to the aging workforce, including the application of lifespan development perspectives, well-being and work-longevity, and ageism.

Dorien T.A.M. Kooij is Associate Professor of Social and Behavioral Sciences in the Department of Human Resources Studies at Tilburg University. Dorien's research focuses upon various issues concerning human resources management, successful aging, work motivation, job crafting, and person-environment fit.

Rachel S. Rauvola is a Doctoral Student of Industrial and Organizational Psychology at Saint Louis University. Her research focuses on lifespan perspectives on work and aging. Her Master's Thesis explores the conceptual and empirical integration of various goal striving mechanism as described by lifespan development theories.

Hannes Zacher is Professor of Work and Organizational Psychology at the Institute of Psychology, Leipzig University. In his research program, he investigates aging at work, career development, and occupational well-being; proactivity, innovation, leadership, and entrepreneurship; and pro-environmental behavior and organizational climate.

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APPENDIX A

■

TABLE A1 Included Studies and Coded Constructs

Study	Age	Job Tenure	Organizational Tenure	Education	Self-Rated Physical Health	Gender	Work Hours	Job Demands	Job Complexity	Job Autonomy	Job Satisfaction	Org. Commitment	Work Engagement	Emotional Exhaustion	Retirement Intentions	Continuance Intentions	Achievement Motivation	Learning Motivation	Task Performance	Contextual Performance	SOC Strategy Use
Bal et al. (2015)	•			•	•	•				•						•					
Barbieri et al. (2015)	•		•					•						•							
Betts (2013)	•			•	•	•					•						•	•		•	
Chen (2015)																•	•				
de Lange (2016)	•				•	•		•		•			•	•		•			•		•
Ebbert (2014)	•		•			•					•										
Fok (2011)	•		•	•									•							•	
Froehlich et al. (2016)	•																•				
Gielnik et al. (2012)	•				•	•											•				
Gielnik, Zacher & Schmitt (2016)	•			•		•															
Grube (2009)	•																				
Ho & Yeung (2016)	•	•		•		•		•													
Kochoian, Raemdonck, Coertjens, et al. (2017)	•					•															
Kochoian, Raemdonck, Frenay, & Zacher (2017)	•																	•			
Kooij & Zacher (2016), Study 1	•					•												•			
Kooij & Zacher (2016), Study 2	•			•		•												•			
Lopina (2015)	•	•	•														•				
McCausland (2014)	•					•												•	•		
Nijendijk (2010)	•		•			•															
Profili et al. (2017)	•					•						•								•	
Schmitt, Gielnik, et al. (2013)	•			•									•								
Schmitt, Zacher, & de Lange (2013), Study 1	•			•						•			•								
Schmitt, Zacher, & de Lange (2013), Study 2	•			•		•				•			•								
Stynen (2013)	•							•		•				•							
TC (Mauritz, 2012; van der Maarel, 2011)	•		•	•	•	•	•		•											•	
van Solinge (2014)	•		•			•															•
Weikamp (2015)						•											•				
Weikamp & Göritz (2015)	•			•		•															
Weikamp & Göritz (2016)	•			•		•					•									•	
Zacher (2013)	•			•		•															
Zacher (2016) [Study 1]	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•
Zacher (2016) [Study 2]	•	•	•	•	•	•	•		•	•	•	•	•	•	•					•	•
Zacher (2016) [Study 3]	•		•			•					•		•								
Zacher (2016) [Study 4]	•	•	•	•		•					•	•				•					
Zacher (2016) [Study 5]	•	•		•		•	•				•		•		•	•			•	•	
Zacher (2016) [Study 6]	•			•	•	•									•	•					
Zacher & Frese (2009)	•			•	•	•			•	•											
Zacher & Frese (2011)	•			•	•	•			•												•
Zacher et al. (2010)	•								•										•		
Zacher & Yang (2016)	•		•								•	•				•					

Note. "•" indicates presence of relevant occupational future time perspective (i.e., overall occupational future time perspective, focus on opportunities, and/or perceived time remaining) effect size(s) for a given antecedent/outcome. SOC = selection, optimization, compensation strategy use; TC = thesis circle.