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**Managing an aging workforce through
high-quality relationships:
the roles of fairness and job design**

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PhD in Management, specialization of Human Resources and
Organizational Behavior

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November, 2021



**BUSINESS
SCHOOL**

Department of Human Resources and Organizational Behavior

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Para a minha mãe

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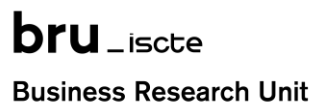
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ABSTRACT

As the workforce ages at an unprecedented rate, organizations need to adapt management practices to the needs and preferences of the increasing proportion of older workers. By combining lifespan approaches to development with organizational justice and job design theories, this thesis examines how employees of different ages – and particularly, older employees – are affected by high-quality social relationships at work. The thesis includes a theoretical introduction followed by six empirical studies. In Studies 1-3, we explored age differences in the importance employees attribute to relational aspects of justice in the workplace. Using semi-structured interviews (Study 1), a field survey (Study 2), and a scenario-based experiment (Study 3), we found that individuals value relational justice more with increasing age. In Studies 4-5, we focused on age differences in reactions to relational aspects of justice. Using a scenario-based experiment (Study 4) and a two-wave survey (Study 5), we found that older employees respond to interpersonal justice with higher trust in their supervisors than younger employees, because of stronger emotion regulation goals. Finally, in Study 6 we focused on age differences in the importance of social support and feedback in the workplace. Using a three-wave survey, we found that receiving and giving social support and feedback at work relates more strongly to the performance of older (versus younger) workers. These findings provide important theoretical contributions to the study of aging and work and suggest practical applications on how to manage an increasingly older and age-diverse workforce.

Keywords: workforce aging, social relationships, organizational justice, job design, lifespan development, age management

RESUMO

Dado o acelerado envelhecimento da população ativa, as organizações precisam de adaptar as suas práticas de gestão de pessoas às necessidades dos trabalhadores mais velhos. Esta tese combina uma abordagem desenvolvimental com teorias da justiça organizacional e das características do trabalho para investigar o papel das relações sociais na gestão dos trabalhadores de diferentes idades – particularmente, nos trabalhadores mais velhos. Os Estudos 1, 2 e 3 exploram as diferenças de idade relativamente à importância atribuída aos aspetos relacionais da justiça em contexto de trabalho. Através de entrevistas (Estudo 1), questionários (Estudo 2) e um estudo experimental (Estudo 3), verificamos que com o aumento da idade, a importância atribuída à justiça relacional aumenta. Os Estudos 4 e 5 exploram as diferenças de idade nas reações dos trabalhadores aos aspetos relacionais da justiça. Através de um estudo experimental (Estudo 4) e questionários (Estudo 5), verificamos que os trabalhadores mais velhos respondem à justiça relacional com maior confiança na chefia do que os mais jovens, porque têm objetivos de regulação emocional mais fortes. O Estudo 6 foca-se na importância do apoio social e do feedback em contexto de trabalho, em diferentes idades. Os resultados obtidos através de questionários indicam que receber e dar apoio social e feedback está mais associado ao desempenho nos trabalhadores mais velhos do que nos mais jovens. Esta tese contribui para o estudo do envelhecimento no trabalho e sugere pistas de intervenção para a gestão de uma força de trabalho cada vez mais envelhecida e diversa.

Palavras-chave: envelhecimento da força de trabalho, relações sociais, justiça organizacional, características do trabalho, gestão da idade

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CHAPTER 1.

INTRODUCTION

GENERAL INTRODUCTION

Workforce aging has been labelled the defining social issue of the 21st century (Pitt-Catsouphes, 2007). By 2050, employees within the 50-64 age group, if not retired, are expected to represent one third of the global workforce (United Nations, 2007). The aging of the workforce is due mostly to the unprecedented rapid aging of the global population. In Portugal, aging is particularly acute: the country has been ranked the fourth oldest in the world (United Nations, 2019). Not surprisingly, population aging has recently been considered by a panel of 25.000 Portuguese citizens the number one challenge for the country from a pool of 50 current socioeconomic issues (CLSBE, 2018).

Workforce aging has become a challenging reality for organizations. Policy makers, scholars and practitioners have called for solutions to manage the aging workforce. For example, the European Agency for Safety and Health at Work developed the campaign “Healthy workplaces for all ages” in 2016-2017 to increase European organizations’ awareness and knowledge related to workforce aging, the aging process, and its implications for workplaces, and to provide practical guidance on how to deal with their employees’ age-related challenges. Although most organizations are aware of the phenomenon of workforce aging, few have acted in response to it (Arnone, 2006). In a survey conducted by the multinational company Manpower in 25 countries to approximately 28.000 organizations, only 21% had implemented strategies to retain older workers (Manpower, 2007).

In academia, research on how to better manage the aging workforce can be traced back to the roots of work psychology when the initial studies concerning the impact of age-related physical changes on workers’ performance were developed in the 40s. In the following decades, the focus shifted to age-related cognitive changes, and this body of research relating aging and work evolved to focus mostly on the intersections between the nature of the work and the working conditions, and employees’ age and health (Ramos & Lacomblez, 2005). However, in both organizational psychology and management fields only recently the topic has begun to “earn some scholarly playing time” (North, 2019, p. 414). After a position paper to encourage researchers to move European research on work and aging forward in the *European Journal of Work and Organizational Psychology* (Schalk et al., 2010), the same journal devoted a Special Issue to workforce aging in order to provide a wide view of the current research landscape and to set future research directions (Truxillo & Fraccaroli, 2013). Not long after, an *Academy of Management Journal* editorial on aging populations and management noted that workforce aging changes *whom* organizations manage, *what* needs

managing, and *how* we manage people, thus presenting important challenges for management practice and research (Kulik, Ryan, Harper, & George, 2014). This increased interest on the aging topic has led to the creation of the scientific journal *Work, Aging and Retirement* in 2015.

Research conducted in recent decades in organizational psychology and management have resulted in a body of knowledge that enables scholars to make recommendations for workplace policies to address age issues (Truxillo, Cadiz, & Hammer, 2015). Researched topics include, for instance, cognitive aging and job performance (Rizzuto, Cherry, & LeDoux, 2012), motivation of older workers (Kanfer & Ackerman, 2004), age stereotypes and discrimination at work (Posthuma & Campion, 2009), HR practices for age-diverse employees (Kooij, Jansen, Dikkers, & De Lange, 2010), older workers and the work–family interface (Allen & Schockley, 2012), and transition to retirement and well-being (Wang, 2007). A significant portion of this research has turned to developmental psychology – specifically, lifespan approaches to development – to understand age-related changes in individuals and to transpose them to and explore them in the work context. Lifespan approaches to development have thus emerged as key theoretical foundations for empirical research on aging and work (Rudolph, 2016).

In the current research, we too use lifespan approaches to development – particularly socioemotional selectivity theory (Carstensen, Isaacowitz, & Charles, 1999) – as our theoretical foundation. A key tenet of socioemotional selectivity theory is that as people age, they are more motivated to pursue high-quality social relationships from which they extract emotional well-being. Thus, in the current research we investigate if and why meaningful relationships at work – with one’s supervisor and coworkers – differently affect older versus younger workers’ attitudes and behaviors in the workplace. In order to do that, we revisit organizational justice and job design – two leading theories of work motivation (Latham & Pinder, 2005) – from a *relational* viewpoint. Job design and justice perceptions are among the most important variables affecting job satisfaction, performance, and intention to stay in the organization (e.g., Cohen-Charash & Spector, 2001; Fried & Ferris, 1987). However, the vast majority of research on justice and job design is “age-blind”, and only recently have researchers started to investigate how these theories might apply differently to older and younger workers.

AIMS AND OVERVIEW OF THESIS

In the face of rapid workforce aging, organizations need to guarantee that their older workers remain healthy, happy, and productive at work, thus maintaining sustainable careers across the lifespan (De Vos, Van Der Heijden, & Akkermans 2020; Van der Heijden et al., 2020). In order to do that, managers have to make decisions concerning headcount, age structure, and adequate management practices for age-diverse employees (Ramos, 2015). Understanding how older workers' needs, expectations, and goals differ from those of their younger counterparts is thus paramount to an effective adaptation of management practices to the maturing workforce.

We build on lifespan approaches to development, particularly socioemotional selectivity theory (Carstensen et al., 1999), that claims that older people are motivated to fulfill emotion regulation goals through meaningful interpersonal relationships. We argue that such high-quality relationships can be developed and maintained in the workplace through the *relational side* of both fairness perceptions and job characteristics. Specifically, receiving interpersonal justice (i.e., respectful treatment from supervisor), and receiving and giving social support (i.e., assistance and advice on the job) and feedback (i.e., information regarding job performance on the job) involve engaging in meaningful social contact with one's supervisor and coworkers. This social contact may contribute to the relationship quality that fulfills older workers' socioemotional goals. Therefore, the central motive of this thesis is to investigate if this *relational side* of both fairness perceptions and job characteristics is more strongly related to important attitudes and behaviors at work (trust in supervisor, in-role performance, and extra-role performance) for older than younger workers.

The aim of this thesis is threefold. First, we aim to increase understanding related to age differences in the importance of different justice dimensions in the workplace. Specifically, we investigate age differences in the importance of relational (i.e., interpersonal, informational, and procedural) justice. Second, we aim to explore if reactions to interpersonal justice – the most relational facet of organizational justice – vary depending on employee age. Specifically, we i) explore the moderating role of employee age on the relationship between interpersonal justice perceptions and trust in supervisor, and ii) investigate emotion regulation goals as an age-related psychological mechanism responsible for the moderator role of employee age in the same relationship. Third, we aim to uncover employee age differences in the importance of social support and feedback at work. Specifically, we explore the moderating role of employee age on the relationships between i) giving and receiving social

support at work and in-role and extra-role performance, and ii) giving and receiving feedback at work and in-role and extra-role performance. Table 1.1 summarizes the research questions of each of the six empirical studies, presented in three chapters in the form of empirical research papers.

This thesis is organized in six chapters. Chapter 1 includes the introduction with the aims and overview of the thesis. Chapter 2 overviews the social context that this thesis focuses on and the theoretical background that supports its main ideas. Specifically, first, we situate this thesis in a context of global aging and workforce aging and their consequences for the economy, organizations, and managers. Second, we overview important definitions for the study of aging and work, as well as the main theories that ground this thesis. Specifically, we define age and aging at work, we review theories and findings on age and work motivation in general, and we elaborate on organizational justice and on job design in particular.

Chapters 3 to 5 include the empirical work. In Chapter 3, we focus on employee age differences in the importance of relational justice in the workplace. Specifically, in Study 1, we use semi-structured interviews ($N = 56$) to explore the salience of relational (i.e., interpersonal, informational, and procedural) justice concerns at work, at different ages. In Study 2, we use a cross-sectional field survey ($N = 123$) to investigate the relationships between employee age and the importance of the different justice dimensions. In Study 3, we use a scenario-based experiment ($N = 170$) to compare how individuals of different ages evaluate the attractiveness of a job in an organization characterized by high relational (i.e., interpersonal) versus instrumental (i.e., distributive) justice.

In Chapter 4, we focus on age differences in reactions to interpersonal justice with two studies. Specifically, in Study 4, we use a scenario-based experiment ($N = 418$) to test the moderating role of employee age in the relationship between interpersonal justice perceptions and trust in the supervisor. In Study 5, we use a two-wave panel survey ($N = 215$) to examine a potential psychological mechanism responsible for the moderating role of age on the relationship between interpersonal justice and trust in the supervisor: emotion regulation goals.

In Chapter 5, we focus on employee age differences in the importance of social support and feedback in the workplace. Specifically, we use a three-wave panel survey ($N = 454$) to test the moderating role of age in the relationships between giving and receiving social support and feedback, and employee in-role and extra-role performance. Finally, in Chapter 6 we summarize the empirical findings of this thesis, discuss their theoretical and practical implications, present the limitations of the studies, and provide future research directions.

This thesis contributes to managerial practice, as understanding how employees of different ages might respond to interpersonal justice, social support, and feedback can help managers and organizations to design age-targeted policies, procedures, and practices that foster social interactions that matter to important employees' attitudes and behaviors at work. At a societal level, this thesis contributes to ongoing conversations at the public policy level regarding the impacts of the aging workforce on the labor market, and it contributes to the United Nations Sustainable Development Goal of promoting sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. Finally, this thesis contributes to scientific knowledge in management and industrial-organizational psychology by examining important work motivation theories through a workforce aging lens using insights from lifespan developmental psychology, thus contributing to solidifying scholarship on aging and work.

Table 1.1. Summary of the research questions, methodology, and outputs of the empirical studies included in this thesis.

Chapter	Study	Research question	Methodology	Outputs
Chapter 3	Study 1	Are relational (i.e., interpersonal, informational, and procedural) justice concerns more salient to older than younger workers?	Semi-structured interviews Content analysis	Study 1 presented at the 19 th Congress of the European Association of Work and Organizational Psychology 2019 and accepted for presentation at the 3 rd
	Study 2	Is relational (i.e., interpersonal, informational, and procedural) justice more important to older than younger workers?	Cross-sectional field survey Multiple linear regression	International Congress of HR and Work Psychology 2020 (conference cancelled due to covid-19).
	Study 3	Are jobs in organizations high in relational (i.e., interpersonal) justice more attractive to older than younger people?	Scenario-based experiment Repeated measures ANOVA and logistic regression	Paper submitted to <i>Work, Aging and Retirement</i>
Chapter 4	Study 4	Is the relationship between interpersonal justice perceptions and trust in supervisor stronger for older than younger workers?	Scenario-based experiment Hierarchical linear regression	Paper presented at the 18 th meeting of the International Society for Justice Research 2021, and at the 81 st meeting of the Academy of Management 2021.
	Study 5	Do emotional regulation goals explain the age differences in the relationship between interpersonal justice perceptions and trust in supervisor?	Two-wave panel survey Confirmatory factor analysis Conditional process analysis	Submitted to <i>Journal of Business Ethics</i>
Chapter 5	Study 6	Are the relationships between giving and receiving social support and feedback, and in-role and extra-role performance stronger for older than younger workers?	Three-wave panel survey Confirmatory factor analysis Hierarchical linear regression	Paper presented at the 81 st meeting of the Academy of Management 2021. Under review (2 nd round Revise & Resubmit) at <i>Human Resource Management Journal</i>

CHAPTER 2.

CONTEXT AND THEORETICAL BACKGROUND

THE CHALLENGES OF WORKFORCE AGING

The aging of the population

The population is aging globally, and at an unprecedented rate. In 2018, for the first time in history, people aged 65 or above outnumbered children under five years of age, a key finding that is highlighted in the latest edition of the World Population Prospects, the most comprehensive study regarding the world population (United Nations, 2019). Another important takeaway is that people aged 65 or above are the fastest-growing age group worldwide. Projections indicate that between 2019 and 2050, the number of people aged 65 or over will more than double, while the number of children under the age of five will remain relatively stable. The regions that will contribute more to doubling the global population aged 65 years or over by 2050 include Northern Africa, Asia, Latin America, and the Caribbean. Europe and Northern America had the most aged population in 2019, with 18% aged 65 or above, and their populations are expected to continue aging. By 2050, one in four persons in Europe and Northern America is expected to be aged 65 years or above. In the case of Portugal, people over 65 increased from 13% to 22% between 1990 and 2019 and are expected to continue growing to 37% in 2080 (INE, 2020). Further, if we consider only people aged 80 years or over, they are projected to triple globally, from 143 million in 2019 to 426 million in 2050 (United Nations, 2019).

These dramatic changes in the age composition of the global population are mostly due to two factors: increases in longevity (i.e., life expectancy at birth) and decreases in fertility rates in virtually all countries and regions around the world (United Nations, 2019). Whereas increases in life expectancy are mostly a consequence of global health progress (Wang & Murray, 2020), fertility rates have fallen mostly because of improved educational opportunities for women and increased access to contraception (Murray, Lopez, Vos, & Lim, 2020). Below, we elaborate on the projections of life expectancy at birth and of fertility.

The global average of life expectancy at birth increased from 64 years in 1990 to 73 years in 2019, and it is projected to continue growing to 77 years by 2050. In Europe and Northern America, in particular, life expectancy has increased from an average of 74 years in 1990 to 79 years in 2019, and it is expected to continue growing to 83 years in 2050. As these projections depend on the continued prevention and treatment of high-mortality diseases and the absence of catastrophic events, such as war or major epidemics (United Nations, 2019), the impact of the Covid-19 pandemic on these projections is still to be determined.

With regard to fertility, even in sub-Saharan Africa – the region with the higher fertility

rate of the world – fertility rates decreased from an average of 6.3 births per woman in 1990 to 4.6 in 2019. In Europe and Northern America, the levels of fertility in 1990 were already below an average of two births per woman, with 1.7 births per woman, on average, in 2019 (United Nations, 2019). Portugal is among the countries with the lowest fertility levels in the world, with an average of 1.4 births in 2019 (FFMS, 2020). In addition, in 2019, half the nations in the world had fertility levels below the population replacement rate (defined as an average of 2.1 births per woman; Wang & Murray, 2020), which means that in such countries and regions, the population is not only getting older, but is also shrinking. Projections indicate that by 2100, populations are expected to decline by 50% or more in 23 countries, including Japan, Spain, and Portugal. Another 34 countries will probably decline between 25-50%, including China, with a forecasted 48% decline (Vollset et al., 2020).

The aging of the workforce

Over time, increases in life expectancy and fertility levels below the population replacement rate are progressively leading to inverted age pyramids, in which older age groups are becoming more populous than younger age groups (Murray et al., 2020). Inverted age pyramids have major impacts on the age composition of the workforce, which has been progressively aging. Some countries are addressing this issue through the adoption of policies to increase fertility rates, such as economic incentives and paid parental leaves (e.g., Sweden, Singapore, and Japan), and through liberal immigration policies (e.g., Canada, Australia, and New Zealand). However, the effects of such policies are limited, and the workforce composition is expected to continue growing older in most countries (Murray et al., 2020).

Globally, the average age of the labor force is expected to rise from nearly 40 years in 2017 to 41 years in 2030, growing considerably faster in Europe and Central Asia, from an average of 38 years in 2017 to 42 years in 2030 (International Labor Organization, 2018). In the United States, the proportion of workers aged 55 or over almost doubled in the last two decades, from 12% in 1998 to 23% in 2018 (Clark & Ritter, 2020). In Europe, the proportion of workers aged 50 or over increased from 24% in 2005 to 31% in 2015, while the proportion of workers under 35 decreased from 35% in 2005 to 30% in 2015 (Eurofound, 2017). In the case of Portugal, between 1983 and 2020 there was an increase from 17% to 23% of workers aged 55 or over, and a decrease from 20% to 5% in workers aged 24 or younger (FFMS, 2021), and the workforce is expected to continue aging, according to the projections (INE, 2017). In addition, the general decline in population will shrink the Portuguese working age population from 6.7 to 3.8 million people between 2015 and 2080 (INE, 2017).

While the aging of the workforce is primarily caused by global population aging, there are additional contributing factors that accentuate it even more. First, and specifically for developed countries, school enrollment rates have been increasing, which means that as more people enroll in high school and university, fewer enter the job market. This particularly affects men aged 16-24. Second, from 2000 onward, while there has been a general decrease in labor force participation rates among the population as a whole, there has also been an increase in the labor force participation rates by older workers (SHRM, 2014).

Challenges to the economy

The impact of inverted age pyramids and an increasingly older workforce on the potential support ratio to maintain social security systems (i.e., number of workers per retiree) is enormous. While in sub-Saharan Africa the support ratio was 11.7 persons aged 25-64 for each person aged 65 or over in 2019, in Europe and Northern America, the ratio was only 3.0, and in Japan the ratio was only 1.8, the lowest in the world. It is expected that by 2050, 48 countries, mostly in Europe, Northern America, and Eastern and South-Eastern Asia, will have potential support ratios below two. These extremely low support ratios highlight how the falling proportions of working-age people will potentially create labor shortages and put pressure on public systems of social security and healthcare (United Nations, 2019). Most countries are dealing with the decrease in support ratios by increasing the legal retirement age. For instance, in the case of Portugal, the legal retirement age has been indexed to changes in life expectancy since 2008, has increased from 65 years in 2008 to 66 years and 6 months in 2021, and is projected to keep increasing over the next years.

In addition, decreases in the working-age population will contribute to falling economic performance. It is estimated that, all other things being equal, the decline in the number of working-aged adults alone will reduce Gross Domestic Product (GDP) growth rates worldwide (Volsett et al., 2020). The *Golden Age Index* (PwC, 2018) from the multinational consulting company PwC quantified how the 36 countries from the Organization for Economic Cooperation and Development (OECD) are harnessing the potential of their older workers, and how that affects their economies. The report indicates Iceland, New Zealand, and Israel as the leading countries and estimates a potential increase of \$3.5 trillion in the combined GDP of the OECD countries by raising employment rates for people aged 55 and over to New Zealand levels. The increase in GDP would derive from fewer early retirements and lower pension costs, more consumer spending power and tax revenues, and lower healthcare and social care costs, as keeping older workers active is proposed to positively

influence their physical and mental health.

Challenges to organizations and managers

The aging of the workforce and an increase in the legal retirement age might encourage workers to retire later but, paradoxically, it does not necessarily encourage organizations to keep their older workers, or to hire new ones. In the EU-27, the percentage of employment among people aged 55-64 was, on average, only 60% in 2019 (Eurostat, 2021). One of the main reasons seems to be that discriminatory practices against older workers occur despite the existence of age discrimination legislation in more than 30 countries (International Labor Organization, 2011).

Discrimination stems from prevailing negative stereotypes about older workers (i.e., beliefs and expectations about workers based on their age; Hamilton & Sherman, 1994). The most common stereotypes are that older workers are less productive, less motivated, more resistant to change, less adaptable, and harder to train than younger workers (Posthuma & Campion, 2009). Research has shown that these negative stereotypes, whether accurate or not, influence managerial decisions. For instance, older individuals with the same qualifications and experience as younger individuals receive lower ratings in selection processes (Avolio & Barrett, 1987; Finkelstein, Burke, & Raju, 1995; Gordon, Rozelle, & Baxter, 1988), which contributes to low levels of senior talent recruitment. Thus, these stereotypes penalize older individuals that, in the event of getting unemployed, face many more barriers to find a new job. Research has also shown that older individuals receive lower ratings in performance evaluations (Ferris, Yates, Gilmore, & Rowland, 1985). These stereotypes signal to older workers that their group is not valued in the organization, which negatively impacts their engagement (Kulik, Perera, & Cregan, 2016). Therefore, one of the first challenges to organizations is to debunk age stereotypes and discrimination in the workplace.

As the proportion of older workers increase in the workplace, different concerns about older workers become more prominent and novel managerial challenges emerge. How will organizations keep their workers healthy, motivated, and productive during longer career spans? How can organizations ensure that older workers remain up to date on the new skills needed to perform their jobs in times of rapid change? How will organizations ensure that accumulated knowledge and experience is transferred from older to younger workers before older workers exit the workforce? To effectively respond to these mounting challenges, managers will have to adapt organizational practices and policies to older workers' needs, preferences, goals, and abilities.

DEFINING AGE AND AGING AT WORK

Who is an older worker?

Despite the growing attention paid to workforce aging by organizations, scholars, and public policy, there is little consensus with regard to what exactly constitutes an older worker (McCarthy, Heraty, Cross, & Cleveland, 2014). In public policy, definitions of older workers range from people aged 55 or more in debates concerning labor force participation rates, to people aged 65 or more when retirement policies are being discussed (OECD, 2005). In the US, employees can file an age discrimination claim under the 1967 Age Discrimination in Employment Act from the age of 40 onwards.

In research, the threshold also varies immensely, anywhere from 40 to 75 depending on the research field and topic (Kooij, De Lange, Jansen, & Dijkers, 2008). In many studies in management and organizational psychology, researchers compare workers from different age groups, but there is a huge variability in the composition of younger, middle-age, and older groups across studies, as there is no scientific underpinning for choosing cutoff points between groups (Peeters & Van Emmerick, 2008). Further, many times the age range of the older group is expanded simply to compensate for lower numbers of old versus young people on the samples under study (Simpson, Greller, & Stroh, 2002).

Differentiating between a young and an old worker is hard because, in general, age categories are less static and more malleable than other social categories that we commonly use to categorize people, such as sex or nationality. Whereas most of us will always be either a man or a woman, most of us will be both young and old in our lifespan, which makes the identification of our age-related ingroup and outgroup more complex. Also, categorizing someone as young or old is relative in the sense that it depends on the perceiver's age. Whereas a child might consider as old someone in their 30s, a 60-year-old might consider that someone in their 40s is young, which is taken as evidence for the "social construction" of age (Giles & Reid, 2005). Anecdotal statements such as "the 40s are the new 30s", or "the 50s are the new 40s" are reflections of this phenomenon.

In the work context specifically, McCarthy et al. (2014) asked 407 managers (with direct responsibility for making decisions about hiring, training, development, promotion, or dismissal of employees) to conceptualize what an older worker is from a decision maker perspective. Results showed that managers consider an older worker to be, on average, 52 years old; however, how old the managers were influenced their definition of an older worker. Managers aged 35 years and under were more likely to categorize an older worker at a

relatively younger age than managers over 35 or over 50.

Differentiating between a young and an old worker is difficult also because aging is a multidimensional and continuous process that is hard to conceptualize using only one indicator, such as chronological age. In the next sections, we elaborate on the multidimensional process of aging and on the different conceptualizations and measures of age in the work context.

Aging as a multidimensional process

As people grow older, a multitude of cognitive, physical, and socioemotional changes occur. These are categorized by Baltes, Reese, and Lipsitt (1980) as age-graded influences on the aging process and are strongly correlated with chronological age. Along with these age-graded influences, their model of aging also encompasses history-graded influences and non-normative influences on aging. While age-graded influences refer to changes in human development that are relatively normative (i.e., universal) to all individuals, history-graded influences refer to factors influencing development that are specific for specific cohorts (e.g., the current covid-19 pandemic or the second world war), and non-normative influences refer to factors influencing development that are idiosyncratic to each individual (e.g., winning the lottery or losing a limb). According to the authors, chronological age is more appropriate for measuring age-graded versus history-graded or non-normative influences on aging.

Yet, even when it comes to age-related influences (that are supposed to be more normative than history-graded or non-normative influences), there is a huge interindividual variability in these cognitive, physical, and socioemotional changes. As implied by the concept of differential aging, the aging process is also a very individual process that is influenced by both biological and environmental factors. Research has shown that interindividual differences in work and life outcomes become more pronounced as people get older (e.g., Dannefer, 2003). In other words, there is a higher cognitive, physical, and socioemotional heterogeneity among older people than among younger people. In what follows, we describe the most common lifespan cognitive, physical, and socioemotional changes.

Cognitive changes

Cognitive changes include alterations in fluid and crystalized cognitive abilities (Cattell, 1943). Fluid abilities involve information processing speed, working memory, spatial functions, abstract reasoning, and processing of novel information, and increases until early

adulthood (mid-twenties) and declines thereafter, with a faster decline after the age of 50 (Verhaeghen & Salthouse, 1997). Crystallized abilities involve accumulated knowledge, vocabulary, and verbal comprehension, are more dependent on experience, and have been shown to increase with age (Salthouse, 2012). Improvements in crystallized abilities that go beyond the work domain are also reflected in the concept of wisdom, defined as expert knowledge about the fundamental pragmatics of life (Baltes & Staudinger, 2000).

In the work context, Klein, Dilchert, Ones, and Dages (2015) showed that older executives had higher verbal skills (an indicator of crystallized abilities) and lower figural and inductive reasoning (indicators of fluid abilities) than younger executives. In addition, Baltes and Lindenberger (1997) found that most age-related variance in cognitive abilities was mediated by a decrease in sensory functioning, specifically, a decrease in visual and auditory acuity.

Physical changes

Beyond changes in sensory functioning, physical changes across the lifespan include losses in muscle function, cardiovascular and respiratory function, neurological function, and immune response, which together contribute to a deterioration of physical condition with increasing age. Specifically, research has shown that with aging there is a gradual loss of muscle mass and muscle strength (McArdle, Vasilaki, & Jackson, 2002). Also, two indicators of cardiovascular and respiratory function – aerobic capacity and peak expiratory flow – have been showed to decrease with advancing age (Cook et al., 1995; Fleg et al., 2005). Neurological changes with age include decreased sensorimotor integration which refers to the combination of sensory and motor information on planned movement (Daley & Spinks, 2000; Morgenthal, 2001). Finally, changes in the immune system include a decrease in the production of new white blood cells accompanied by a reduction in function of the existing ones, which results in older adults' diminished capacity to build up defenses against specific diseases, such as those caused by bacteria and viruses (Maertons, Putter, Chen, Diehl, & Huang, 2012).

Socioemotional changes

As individuals age, they also experience psychological changes. One of the most significant change is that socioemotional skills increase with age (for a review, see Blanchard-Fields, 2007). For instance, older people are more effective at regulating emotions: their emotional control is higher (Gross et al., 1997; Lawton, Kleban, Rajagopal, & Dean, 1992), they report

fewer interpersonal tensions, and are less likely to argue in response (Birditt, Fingerman, & Almeida, 2005), and they use more effective emotion regulation strategies (Blanchard-Fields, Mienaltowski, & Seay, 2007) than younger adults. Moreover, older people are more forgiving than younger people (Cheng & Yim, 2008), and process and recall more positive than negative emotional information (Löckenhoff & Carstensen, 2007).

In addition, research on affect has showed that, across the lifespan, affective experiences become more positive. For instance, the frequency of negative emotions has been shown to consistently decrease until the age of 60, and then level-off, whereas periods of highly positive emotional experience are more likely to endure among older people (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000). Further, increasing age is associated with increasing low-arousal positive affect (e.g., relaxation, peace of mind), and decreasing high-arousal negative affect, especially anger (Kessler & Staudinger, 2009; Ross & Mirowsky, 2008; Scheibe, English, Tsai, & Carstensen, 2013).

Finally, research on personality has consistently shown that agreeableness increases with age, while neuroticism decreases with age (McCrae et al., 1999; Roberts, Walton, & Viechtbauer, 2006; Srivastava, John, Gosling, & Potter, 2003). In sum, there is an age-related increase in the quality and stability of emotional experiences in everyday life and older people make better use of emotion-regulation strategies, which together result in better self-regulation and better skills to manage interpersonal relationships.

Effects of aging on work-related outcomes

The cognitive, physical, and socioemotional changes that occur with increasing age have several consequences for the work context that should be taken into account to understand how older workers differ from their younger counterparts.

Consequences of cognitive changes

Although one might anticipate that the cognitive changes associated with aging would negatively affect workers' performance, and despite the prevailing stereotype that performance decreases with age (Posthuma & Campion, 2009), research has provided contradictory findings on this matter (for a review, see Rizutto et al., 2012). The first quantitative review on the relationship between employee age and job performance was conducted by Rhodes in 1983 and analyzed 25 empirical studies. Results could not be more mixed: relationships between employee age and performance included eight positive, nine negative, eight inverted-U, and nine nonsignificant. Later, while Waldman and Avolio's

(1986) meta-analysis found that performance increased with age when measured by objective productivity indicators (e.g., number of units produced) and slightly decreased with age when measured by subjective supervisor ratings, McEvoy and Cascio's (1989) review found that age was largely unrelated to performance. More recently, Sturman's (2003) meta-analysis found that age had an inverted U-shaped relationship with performance, but only in low complexity jobs, while in high complexity jobs, experience rather than age became more predictive of job performance. Finally, Ng and Feldman's (2008) meta-analysis showed no relationship between age and core task performance.

A common argument among these authors to justify such disparity in findings is that older employees might be able to compensate for cognitive changes in ways that do not automatically reduce performance, a claim also made by Baltes and Baltes (1990) in their selective optimization and compensation model. Because age, organizational tenure, and job tenure are highly correlated, older workers are often more familiar than younger workers with their job responsibilities, and this experience facilitates effective performance even in the event of declines in cognitive functioning. More time in the occupation, organization, and job provides older workers with well-developed complex knowledge structures that compensate for losses in fluid abilities (Park, 1994).

Several empirical studies have provided support for such compensation. For instance, Artistic, Cervone, and Pezzuti (2003) found that older workers were better than younger workers when working on problems they have already encountered on the job, while Shultz, Wang, Crimmins, and Fisher (2010) found that having more time to complete tasks, as well as autonomy and schedule flexibility, buffers the impact of tight deadlines and complex problem solving on older workers' stress.

Consequences of physical changes

There are various physically demanding jobs or tasks that older employees might be at a disadvantage in performing compared to their younger counterparts. For instance, older workers have more difficulty adjusting to nonstandard work shifts than younger workers (Kawada, 2002). Also, workers report an average decline of 20 percent in their physical work capacity between the age of 40 and the age of 60, which is associated with decreased job-related work capacity and increased work-related injuries and illnesses (Kenny, Yardley, Martineau, & Jay, 2008). Older employees are also at a disadvantage in jobs in which speed of movement is important, such as in the case of cashiers who are required to scan items and perform money transactions quickly to satisfy customers (Peng, Jex, & Wang, 2019).

However, there are several reasons why the importance of physical changes that occur with aging should not be overstated. First, age is definitely not the only factor that negatively affects physical health, with lifestyle (e.g., smoking, drinking, eating, and exercising habits) playing a large role. Second, even when physical declines are associated with age, older workers can reduce them by either training their physical capacities (in order to maintain them longer) or by compensating for the declines, for instance, by wearing glasses to overcome reading difficulties, or using specific shoes that prevent them from experiencing pain in their knees (Baltes & Baltes, 1990). Third, many jobs require more cognitive and socioemotional skills than physical skills to achieve high performance (Peeters & Van Emmerick, 2008). Also, most jobs do not require extreme physical skills, where physical declines could have an impact.

Finally, even in jobs that actually require physical endurance, there are easy and cheap ways of decreasing the impact on workers' health. For instance, the European Foundation for the Improvement of Living and Working Conditions (a decentralized agency of the European Union) have compiled dozens of case studies of organizations in Europe that have adapted their jobs to the aging workforce through ergonomic interventions (e.g., introduction of height-adjustable chairs and desks) and flexible work practices (e.g., changes in work schedules and in the number of work hours per week).

Consequences of socioemotional changes

Changes in agreeableness and neuroticism, affect, and socioemotional skills as individuals grow older are, in general, very positive for work outcomes. First, these psychological changes are associated with positive changes in job attitudes: older workers are generally more satisfied with their job, pay, supervisor, and coworkers, and have higher organizational commitment, organization identification, and loyalty to the organization than younger workers (Ng & Feldman, 2010). Second, age-related advantages in emotion regulation are also thought to decrease older workers' occupational stress and increase their well-being (Scheibe & Zacher, 2013).

Indeed, research has found that the use of better emotion regulation strategies by older workers is associated with lower intensity of negative emotions and higher sales productivity (Yeung & Fung, 2012), lower emotional exhaustion and cynicism (Johnson, Holdsworth, Hoel, & Zapf, 2013), and lower physical strain and higher well-being (Peng, Tian, Jex, & Chen, 2017) compared to younger workers. Finally, these psychological changes also have positive consequences for behaviors at work. Specifically, older workers have been

consistently found to engage in less interpersonal conflict at work (Ng & Feldman, 2010), and to engage in more organizational citizenship behaviors and fewer counterproductive work behaviors (Ng & Feldman, 2008).

Conceptualizations and measures of age

Several conceptualizations and measures of age have been proposed in an attempt to capture the complexity of aging in the workplace (e.g., Barak, 1987; Baum & Boxley, 1983; Birren & Cunningham, 1985; Salthouse, 1986). The most comprehensive model, by Sterns and Doverspike (1989), differentiated five conceptualizations of age: chronological, functional, psychosocial, organizational, and lifespan age.

Chronological age refers to the actual calendar age (i.e., number of years since birth). Functional age refers to biological and psychological changes that occur as chronological age increases, and that affect work performance in terms of health, physical ability, and cognitive ability. Psychosocial age encompasses both the self and the social perceptions of one's age. Whereas the self-perception entails individuals' feelings, thoughts, and actions regarding their own age, including how old individuals' perceive themselves to be, the social perception involves other people's views about someone's age which are grounded in ingrained social norms and prevailing stereotypes. Organizational age refers to age in the context of jobs and organizations, including the length of time in the organization, the length of time in the whole career, the career stage, and specific age norms in the organization or sector. For instance, in the IT sector, workers are considered old if they have children, whereas airline pilots are considered old in their 50s, and Supreme Court Justices in their 80s (Pitt-Catsouphes & Smyer, 2006). Finally, lifespan age reflects behavioral changes across the lifespan that might originate from normative interests and preferences (e.g., associated with the age cohort) or from more individual factors such as changes in family composition, or socioeconomic status.

In 1992, Cleveland and Shore operationalized Sterns and Doverspike's (1989) conceptualizations of age, in terms of person-based age measures (focused on the individual's perception) and context-based age measures (focused on social comparison). Person-based measures include chronological age, subjective age, and functional age. While chronological age is measured by the objective calendar age, subjective age is measured by individuals' perceptions of how old they feel, depending on their perceptions of their own health, appearance, and energy. As functional age reflects physical and psychological declines, it can be measured with attributes such as eyesight, reaction time, and hearing range.

Context-based measures include social age and perceived relative age. While social age is

measured by the subjective age evaluated by others (i.e., how old others think an employee is), perceived relative age refers to the perceived age of an employee when compared with the other members of the group or organization, and it can be measured from the perspective of both the employee and the supervisor. Other measures of age include life stage or family status for lifespan age, and organizational and job tenure for organizational age (Kooij et al., 2008).

Then again... who is an older worker?

Notwithstanding several calls for conceptual refinement of the age construct in the workplace (Kooij et al., 2008; North, 2019; Schalk et al., 2010), a lack of agreement persists on how to best define an older worker. Also, despite empirical evidence showing different effects on work outcomes of different conceptualizations of age (e.g., Cleveland & Shore, 1992; Warr, 1992), most scholars continue to use chronological age as the main indicator of aging at work. Why? Because chronological age is easily assessed by researchers, and easily interpreted by practitioners and policy makers, which facilitates the translation of findings to the organizational and societal level (Settersten Jr. & Mayer, 1997; Truxillo & Fraccaroli, 2013). Chronological age is, along with gender, probably the simplest piece of information that can carry the most information about a person (Schwall, 2012). But then again, where to set the threshold that distinguishes a young employee from an old one? According to Shultz and Adams (2007), “one avenue for dealing with the dilemma of where to set the cut-off is not to set any cutoff” (p. 310). Wong and Tetrick (2017) add that the effects of aging on workers do not begin or stop at a particular point, and that using a specific cut-off to divide the workforce between young and old is overly simplistic.

Following this logic, Bohlmann, Rudolph and Zacher (2018) have recently put forward methodological recommendations for the study of aging and work, including how to best define and operationalize age in organizational research. First, they advocate for the use of chronological age as a continuous variable instead of using artificially created age groups because the latter are likely to cause biases, neglect age differences within age groups, and lower the precision of effect sizes. Second, as a way to overcome the atheoretical nature of the chronological age construct, they suggest investigating theory-driven mediators of the age effects on work outcomes that account for the age-related physiological or psychological changes and processes. Third, they advocate controlling for the effect of time-related variables that might confound the effects of age, such as organizational, occupational, and job tenure. North (2019) goes further and proposes the use of a combination of age-related

variables (age, generation, organizational tenure, and work experience) when investigating aging at work, as a way to simultaneously account for multiple age-related dimensions.

In our research, we follow the recommendations of Bohlmann et al. (2018) and conceptualize age in the workplace using chronological age as a continuous variable, investigate age-related psychological mechanisms responsible for age effects, and control for time-related constructs. Thus, we avoid a cutoff to define who is an older worker, simply assuming the corollary ‘the higher the age, the older the employee’.

EMPLOYEE AGE AND WORK MOTIVATION

Important definitions for the study of work motivation

Since Edward Tolman’s (1932) and Kurt Lewin’s (1936) first psychological theories on goal directed behavior, theories of motivation have focused on the extent to which people initiate behaviors when they believe that pursuing goals will lead to desired outcomes (e.g., Deci & Ryan, 2000; Locke & Latham, 1990; Vroom, 1964). Following this key idea, motivation has been defined as the immediate influence on direction, vigor, and persistence of action (Atkinson, 1964), and the process governing the choice made by an individual among alternative forms of voluntary activity (Vroom, 1964).

Work motivation, specifically, has been defined as “a set of energetic forces that originates both within as well as beyond an individual’s being, to initiate work-related behavior, and to determine its form, direction, intensity, and duration” (Pinder, 1998, p. 11). This definition implies that motivation is a psychological process that results from both the individual and the environment. Recent theories have focused mostly on contextual influences on work motivation, with job characteristics and organizational justice among the most important theories and bodies of empirical research (Latham & Pinder, 2005).

Along the years, several constructs have been proposed as conceptualizations and measures of work motivation, including motives, needs, values and goals. Motives are broadly defined as workers’ preferences for particular outcomes at work such as a high salary or friendly coworkers (Kooij, De Lange, Jansen, Kanfer, & Dijkers, 2011). Whereas *motives* are conscious preferences, they may arise from unconscious *needs* without explicit awareness, which work as drivers of such preferences (Alderfer, 1972; McGregor, 1960; Ryan & Deci, 2000). In addition, motives may arise from *values* which can be considered secondary drivers of action that originate in needs and also in socialization, cognition, and experience (Kalleberg, 1977; Latham & Pinder, 2005; Ronen, 1994). Finally, *goals* refer to

individualized and cognitively elaborated representations of what a person wants to achieve, and the establishment of goals is intertwined with goal attainment behaviors which correspond to the specific way (i.e., strategy, plan) by which a person satisfies her or his motives (Brunstein, Schultheiss, & Grässman, 1998).

Despite the conceptual differences between motives, needs, and values, they are often measured with similar items and tend to be used interchangeably in the work motivation literature (Kooij et al., 2011). In our research, we use motives, needs, and values interchangeably to refer to employees' propensities or preferences for specific work outcomes, and we use goals to refer to the aims or results employees desire to achieve.

Age differences in work motivation

Despite the prevailing stereotype that older workers are less motivated than younger workers, research does not consistently find age differences in motivation levels (Ng & Feldman, 2012; Posthuma & Campion, 2009). Yet, there is wide consensus among researchers that motives, needs, and values change across the lifespan (Kooij et al., 2011). It is not that older employees are less motivated than their younger counterparts; instead, they are motivated by different factors. Although research on age differences in work motives is sparse and suffers from methodological shortcomings (Rudolph, Baltes, & Zabel, 2013), some consistent findings have emerged. For instance, research has found age differences in intrinsic motives (i.e., related to the job itself) versus extrinsic motives (i.e., rewards related but external to the job) and in generativity needs. In what follows, we elaborate on such age differences.

Early research has shown that the job satisfaction of older workers is more strongly associated with intrinsic factors than the job satisfaction of younger workers. For instance, in a field study with industrial supervisors, Gruenfeld (1962) found that older supervisors were more concerned with working conditions and the absence of stress, and preferred jobs with regular working hours and with fewer worries, tensions and troubles, while younger supervisors were more concerned with high wages and good fringe benefits. In a sample of blue-collar workers, Schwab and Heneman (1977) found that satisfaction with intrinsic outcomes was consistently related to age, while satisfaction with extrinsic factors was not. More recently, Kooij et al.' (2011) meta-analysis showed a positive relationship between age and the strength of intrinsic motives (i.e., accomplishment, job enjoyment, and existing skill utilization), and a negative relationship between age and the strength of growth motives (i.e., learning and advancement) and extrinsic motives (i.e., financial compensation and prestige). Also, a study with approximately 10.000 employees showed that older workers perceived

intrinsically rewarding work features (i.e., autonomy and flexibility) to be more motivating than younger workers did, while for extrinsically rewarding work features there was either a negative relationship with age (i.e., progression) or no relationship with age (i.e., rewards, status, and recognition) (Inceoglu, Segers, & Bartram, 2012).

Another class of motives that have been found to increase with age are generativity motives. Generativity refers to behaviors pertaining to caring for others, guiding, and helping the society and future generations (Erikson, 1950; McAdams & de St. Aubin, 1998). Generativity needs emerge around midlife (McAdams, de St. Aubin, & Logan, 1993) and are most prominent in later adulthood (McAdams, Hart, & Maruna, 1998). For instance, Van Lange, De Bruin, Otten, and Joireman (1997) found stronger prosocial orientations among older adults than young adults in an experimental game-simulation study. Mor-Barak (1995) found that generativity is an important aspect of meaningful work for older job seekers. Lang and Carstensen (2002) found, in a card-sorting exercise, that older individuals prioritized generativity goals over other social goals, while younger individuals did not.

Age affects generativity needs due to age-related differences in time perspective and mortality salience. Research showed that decreases in future time perspective (i.e., perceiving future time as more limited) resulted in a preference for generativity goals and altruistic behaviors over personal autonomy and self-enhancement goals (Freund & Blanchard-Fields, 2014). Also, reflections on mortality are more frequent among older workers, which can lead them to help other people (Grant & Wade-Benzoni, 2009), as a result of an increasing desire to feel connected with others (McAdams & de St. Aubin, 1998) and to strive for “symbolic immortality” (McAdams et al., 1998). These findings suggest that jobs that provide opportunities for generative behaviors, such as teaching and mentoring are likely to motivate older workers (Kanfer & Ackerman, 2004).

Lifespan development theories and work motivation

Since the first empirical studies on age differences in work motivation, significant theoretical progress has been made in the psychology of aging. The lifespan approach to developmental psychology has emerged in the 70s, after some preliminary work earlier in the XX century that did not attract much scholarly attention (for a review, see Baltes et al., 1980). Lifespan developmental psychology differs from previous development approaches that assumed that individuals attain a state of maturation or growth in early adulthood and that subsequent changes are not considered development but aging or decline instead (Birren, 1964; Strehler, 1977). It also contradicts models of development by stages (e.g., Erikson, 1950; Piaget, 1947)

that conceptualized development as a unidirectional and cumulative process. Alternatively, lifespan development psychology proposes that human development is a lifelong process in which no special state of maturity exists and in which behavior change processes can occur at any point from birth to death, and in a non-linear way (Baltes et al., 1980). Accordingly, successful aging is defined in lifespan approaches as the relative maximization of gains and the minimization of losses (Baltes, 1987).

Among the most prominent theories of lifespan development that are relevant for the study of work motivation are the assimilative and accommodative coping theory (AAC; Brandtstädter & Renner, 1990), the motivation theory of control (MTC; Heckhausen & Schulz, 1995), the selection, optimization, and compensation theory (SOC; Baltes & Baltes 1990), and the socioemotional selectivity theory (SST; Carstensen et al., 1999). All these theories propose changes in the goals individuals pursue with increasing age.

AAC proposes that age causes a shift from tenacious goal pursuit which aims to adapt the environment to one's preferences, to flexible goal adjustment which aims to accommodate diminished personal resources to the environment (Brandtstädter & Renner, 1990). Similarly, MTC proposes a shift in which workers focus less on bringing the environment in line with their needs and more on adjusting their needs to the environment as they age (Heckhausen & Schulz, 1995). SOC proposes that with advancing age, individuals actively select goals, optimize their pursuit of such goals, and compensate for factors that may impede goal achievement, such as cognitive and physical decline, making better use of their available resources (Baltes & Baltes, 1990). Finally, SST (Carstensen et al., 1999) focuses specifically on the changing importance of different types of social goals with increasing age, making it particularly suitable for the study of age differences in the effects of interpersonal relationships at work – the focus of our research. Given the crucial importance of SST to the current research, we expand below on its main tenets and empirical findings.

Socioemotional selectivity theory

Socioemotional selectivity theory (SST) postulates that motivation changes as people age and their time horizons shrink (Carstensen, 1991; 1992; 2006; Carstensen et al., 1999). The theory has three major assumptions. First, it assumes that social interaction is fundamental for human survival. Second, it is a theory of human agency and self-regulation, in the sense that it assumes that individuals have control over their own behavior which is guided by the anticipated realization of goals (Bandura, 1991). Third, it considers that individuals hold multiple (and sometimes conflicting) goals which lead them to hierarchize them in order to

select the ones they most wish to pursue.

The theory proposes that two broad categories of social goals motivate social behaviors across our lifespan: goals related to the acquisition of knowledge, and goals related to the regulation of emotion and affect. The first category encompasses social behavior that is motivated by the pursuit of information. Since birth, individuals rely on others to learn the most basic elements of life in society, such as language, values, and norms (D'Andrade, 1981; Shweder & Sullivan, 1990), either through observation or instruction. In the work context specifically, knowledge acquisition goals allow individuals to learn from their coworkers about, for instance, the organization culture and climate, the work processes and procedures, and the behaviors that are expected of them. The second category comprises social behavior that is motivated by the regulation of emotional states. Such regulation involves avoiding negative states and experiencing positive states via contact with other social partners, and it is rooted in the need to find emotional well-being and intimacy, and to establish feelings of social embeddedness (Carstensen et al., 1999).

According to SST, what makes people choose between knowledge acquisition or emotion regulation goals is their perception of time. People are always aware of time – clock time, calendar time, and life time – and, as individuals grow older, they become aware that their time is "running out". This gradual change in temporal horizons, from an open-ended future to a limited future, influences the prioritization of social goals and subsequent preferences for social partners. When people are young and healthy, they typically perceive time as expansive with an almost unlimited temporal horizon. As a consequence, they tend to focus more on the future and to select long-term goals because those goals optimize future possibilities. Under such conditions, contact with novel and a larger number of social partners is prioritized because the possible long-term payoffs of gaining knowledge and information from these social partners have much time to be realized. Therefore, knowledge acquisition goals are prioritized over emotion regulation goals.

On the other hand, as people grow older and start to perceive their time as limited, acquiring new social contacts loses its instrumentality and might feel like a less good investment as there is less future ahead to reap the benefits of those relationships. Also, the possibility of meeting new people feels less important and meaningful than the possibility of deepening existing important social relationships. As people move through life, focus shifts from the future to the present, importantly influencing the decisions they make. Therefore, older individuals tend to select and pursue short-term goals from which they can extract more immediate emotional well-being. Under such conditions, individuals seek out social partners

with whom they can experience close ties, and social connectedness, social support, and emotion regulation assume highest priority. In this case, emotional regulation goals are prioritized over knowledge acquisition goals.

Empirical research provides support for core SST propositions. In a qualitative longitudinal study, Carstensen (1992) interviewed the same participants at the ages of 18, 30, 40, and 50. She found that, with age, there was a decrease in the frequency of contact with acquaintances (less close relationships which are largely informational sources) while emotional closeness was maintained or increased in close relationships through increased contact. In addition, in a card-sorting exercise, older people placed greater emphasis than younger people on the affective potential of prospective social partners, versus on the potential to gain information (Fredrickson & Carstensen, 1990). Further, the effect of the assessment of time on goal selection and pursuit has also been found to apply in situations where individuals adopt a time perspective that is not typical of their chronological age. For example, while older individuals preferred contact with familiar social partners more than younger participants, this bias for familiar social partners disappeared when they were asked to imagine that they had many more years to live due to a new medical breakthrough. Conversely, younger people also displayed this bias when asked to imagine that they would emigrate to another country in a few weeks (Fung, Carstensen, & Lutz, 1999).

Empirical evidence has also supported that older people perceive their time as more limited than younger people and therefore prioritize present-oriented emotionally meaningful goals (generativity and emotion regulation), whereas younger people perceive time as more open-ended than older people and therefore prioritize future-oriented instrumental or knowledge-related goals (Lang & Carstensen, 2002). In alignment with SST, older people tend to be less concerned with the distant future (Fingerman & Perlmutter, 1995), and more focused on goals in the present or near future (Lens & Gailly, 1980; Penningroth & Scott, 2012) than younger people.

In the past decade, SST reasoning has been more directly integrated with organizational research focused on workforce aging. For instance, SST has been used to propose employee age differences in engagement levels (Kim & Kang, 2017), reactions to human resource practices (Veth, Korzilius, Van der Heijden, Emans, & De Lange, 2017), stress and well-being at work (Scheibe & Zacher, 2013), emotional labor strategies (Cheung & Tang, 2010; Dahling & Perez, 2010), psychological contracts (Bal, De Lange, Jansen, & Van Der Velde, 2013; Bal, De Lange, Zacher, & Van der Heijden, 2013), job characteristics (Truxillo, Cadiz, Rineer, Zaniboni, & Fraccaroli, 2012), work-family conflict (Thrasher, Zabel, Wynne, &

Baltes, 2016), and even preferences for social partners over lunch breaks (Hommelhoff, Müller, & Scheibe, 2018).

In the current research, we use SST as a theoretical framework, along with research on age-related socioemotional and generativity differences to propose that close and meaningful interpersonal relationships at work are more important to older than younger employees and affect their attitudes and behaviors at work more strongly. In order to do that, we revisit organizational justice and job design – two leading theories of work motivation (Latham & Pinder, 2005) and investigate whether the “relational sides” of both organizational justice and job design are especially motivating to older versus younger employees. In the next sections, we introduce organizational justice and job design theories, their respective relational sides, and how these relate theoretically and empirically to employee age.

AGE AND THE RELATIONAL SIDE OF WORK MOTIVATION: CONTRIBUTIONS FROM ORGANIZATIONAL JUSTICE AND JOB DESIGN

In what follows, we present a brief overview of organizational justice theory, explain its “relational side” and discuss how it relates with employee age. Next, we outline job design theory, characterize its “relational side” and delve into how it relates with employee age.

Organizational justice

Justice issues have long preoccupied philosophers and political scientists, from Aristotle in the Classical period to Locke or Hobbes in the XVII century, to more contemporary Rawls. All of them have taken normative approaches to answer the question “What is fair?” (Colquitt, Greenberg, & Zapata-Phelan, 2005). Social sciences, on the other hand, have taken a more descriptive approach by not focusing on what justice *should be* but rather on what people *perceive it* to be. In other words, social sciences have focused on understanding what people perceive to be fair or unfair, and how they react to it. Organizational justice – defined as employees’ perceptions of fairness in the workplace – is one of the most studied topics in organizational psychology, human resource management and organizational behavior (Cropanzano & Greenberg, 1997).

Research has shown that employees’ justice perceptions in the workplace are positively associated with their work performance, organizational citizenship behaviors, job satisfaction, organizational commitment, and trust in supervisor (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). In contrast, justice perceptions are negatively associated with counterproductive work

behaviors and turnover intentions (Cohen-Charash & Spector, 2001), and even adverse health outcomes, including insomnia (Greenberg, 2006), psychological distress (Tepper, 2001), and cardiovascular disease (Kivimäki et al., 2005). Although the complete historical overview of organizational justice research is beyond the scope of our research, in what follows we briefly introduce the four dimensions of justice that are generally agreed upon: distributive, procedural, informational, and interpersonal justice (Colquitt, 2001).

Early research on organizational justice focused primarily on employee responses to the outcomes they receive at work – that is, distributive justice. These outcomes might include performance appraisal results, salary and bonuses, benefits, a promotion decision, and so on. Distributive justice is rooted in equity theory (Adams, 1965; Homans, 1961) that conceptualized it as an equitable comparison between the ratio of one's efforts and outcomes and another person's ratio of efforts and outcomes. Although equity is the predominant rule to evaluate distributive justice (Greenberg, 1982), other distributive rules exist, such as equality (i.e., everyone receives the same outcomes regardless of their efforts) and need (i.e., people receive the outcomes depending on what they need) (Deutsch, 1975).

In a second wave of organizational justice research, the focus shifted from the *ends* of justice to the *means* of justice, as scholars became interested in the processes or procedures used to make decisions about the allocation of outcomes – that is, procedural justice (Leventhal, 1976; Thibaut & Walker, 1975). This interest in the process of justice emerged in legal settings, but soon was brought to the organizational field, with research showing that employees are far more accepting of decisions that result from fair procedures than those that result from unfair procedures (e.g., Greenberg, 1994). Commonly used rules to judge procedural justice include voice (i.e., participation in decision making by expressing one's opinion; Folger, 1977), bias suppression (i.e., prevention of self-interest or blind allegiance), consistency (i.e., in decisions across people and over time), accuracy of information (i.e., basing decisions on reliable information and informed opinion), correctability (i.e., existence of appeal procedures to modify and reverse decisions), representativeness (i.e., consideration of the needs of all subgroups or individuals affected), and ethicality (i.e., compatibility with moral and ethical values) (Leventhal, 1980).

In a third wave of organizational justice research, Bies and Moag (1986) were the first to argue that employees were not only concerned with fair outcomes and procedures, but also with the interpersonal treatment received from authority figures during the enactment of such procedures – that is, interactional justice. As first conceptualized, interactional justice referred to the fairness with which decisions are communicated, in terms of respect, propriety,

truthfulness, and justification of decisions (Bies & Moag, 1986). Subsequent research has shown that interactional justice is comprised of two conceptually and empirically distinct dimensions: informational justice and interpersonal justice (Greenberg, 1993a; Colquitt, 2001). While informational justice refers to employee perceptions of the quality of explanations that they receive for decisions, in terms of the truthfulness, timeliness, adequacy of justification, and detail, interpersonal justice refers to the respect, dignity, and concern with which decisions are communicated; in other words, the sensitivity of interpersonal treatment (Colquitt, 2001).

Organizational justice is an important source of motivation in the workplace because of the important psychological needs it addresses. According to the multiple needs model of justice (Cropanzano, Byrne, Bobocel, & Rupp, 2001), justice fulfills needs for instrumental control, relational belonging, and moral virtue. While the need for moral virtue – i.e., the need to be a virtuous actor in a just world, by doing what is “right” (Folger, 1998) – can be satisfied by all justice dimensions, the needs for instrumental control and relational belonging are addressed by different justice facets. Specifically, distributive justice addresses instrumental control needs by assuring equitable outcomes in the present and future. Procedural and informational justice address both instrumental control needs and relational belonging needs. Instrumental needs are satisfied to the extent that the procedures followed, and explanations provided give assurances regarding the fairness of current and expected future outcomes. Relational needs are satisfied to the extent that the procedures followed, including opportunities for voice, and the explanations given provide reassurance regarding individuals’ status in a valued group and positive relationship with authority figures. Finally, interpersonal justice which consists of the respect and dignity with which people feel they are treated, matters primarily because of what it communicates about the quality of the relationship, and thus addresses the need for relational belonging.

Although organizational justice can also be received from customers (Rupp, McCance, Spencer, & Sonntag, 2008), peers (Cropanzano, Li III, & Benson, 2011), or outside arbitrators (Posthuma, Dworkin, & Swift, 2000), it is usually conceptualized as originating from the organization (in the case of distributive and procedural justice) or from a representative of the organization, usually one’s supervisor (in the case of interpersonal and informational justice) (Masterson, Lewis, Goldman, & Taylor, 2000; Tyler & Bies, 1990).

Organizational justice and age

Research relating organizational justice and employee age is limited and recent. In a meta-analysis on the relationships between age and several job attitudes, age was found not to be related to perceptions of interactional and procedural justice, and it was only weakly related to perceptions of distributive justice (Ng & Feldman, 2010). In a recent review of justice and time, Fortin, Cojuharenco, Patient, and German (2016) called for research on the salience and predictive strength of justice dimensions for different age groups.

The scarce empirical evidence available suggests that employee age might moderate relationships between justice perceptions and employee attitudes and behaviors in the workplace. For instance, Bal, De Lange, Ybema, Jansen, & Van der Velde (2011) found that age moderates the relationship between procedural justice, trust in one's leader, and turnover. Specifically, trust in leader moderated the relationship between procedural justice and turnover only for older (versus younger) workers, which the authors interpreted as indicative of older workers' greater desire to experience emotionally meaningful relationships. Procedural justice has also been found to affect more strongly older workers' absenteeism (Tenhiälä et al., 2013) and stress (Yaldiz, Truxillo, Bodner, & Hammer, 2018). Further, Goštautaitė and Shao (2020) found that the positive relationship between age and sickness absence was only significant when distributive justice was low, and Kollmann, Stöckmann, Kensbock, and Peschl (2020) found that employees of different ages responded differently to different types of distributive injustice. Specifically, being over-rewarded (i.e., receiving high monetary rewards for low task contributions) reduced older (but not younger) workers' job satisfaction while being under-rewarded (i.e., receiving low monetary rewards for high task contributions) decreased younger (but not older) employees' job satisfaction.

Organizational justice and age: The case of interpersonal justice

Given the propositions from SST that close and high-quality relationships are more important to older than younger individuals (Carstensen et al., 1999), it is surprising that research relating justice to employee age has not focused more on the interpersonal facet of organizational justice. An exception is the work by Brienza and Bobocel (2017) that investigated how age moderates the relationships between all four justice dimensions and employee work outcomes. The authors found that interpersonal and informational justice predicted emotional exhaustion and deviance for older (but not younger) workers, while distributive and procedural justice predicted emotional exhaustion and deviance for younger (but not older) workers.

Similar to Brienza and Bobocel (2017), we argue that the multiple needs model of justice (Cropanzano, Byrne et al., 2001) and SST (Carstensen et al., 1999) provide reasoning to support why interpersonal justice – the most relational facet of justice – should matter more to older than younger employees. If interpersonal justice is the dimension of justice that most directly addresses people’s need for relational belonging by signaling that one is valued and respected by others (Cropanzano, Byrne et al., 2001), then interpersonal justice should be especially important to older employees who, because of perceiving less time available into the future, are more present-oriented and prioritize emotional regulation goals through meaningful social relationships (Carstensen et al., 1999).

Related research has shown that the characteristics SST associates with greater age – a greater focus on the present and a greater need for relatedness – influence the salience of and reactions to interpersonal justice. Specifically, Cojuharenco, Patient, and Bashshur (2011) found that, when asked to describe an unfair event, people with a present temporal focus referred more to interactional injustice concerns whereas people with a future temporal focus referred more to distributive injustice concerns. Johnson, Selenta, & Lord (2006) found that interpersonal justice perceptions have a stronger effect on employees’ satisfaction with the supervisor for people with a higher versus lower relational self-concept (i.e., that define themselves in terms of dyadic connections and role relationships with others).

Job design

Job design, or work design, can be defined as the “the content and organization of one’s work tasks, activities, relationships, and responsibilities” (Parker, 2014, p. 662). Initial concerns about the design of jobs can be traced back to the industrial revolution when factories replaced craft-based industries and the new factory jobs were simple and specialized. In 1776, Smith introduced the division of labor concept – a division between the managers who *think* work and the employees who *execute* work. The concept was further developed by Taylor in 1911 in his scientific management theory. This approach to analyzing jobs and decomposing them into their smaller parts to achieve maximum efficiency proved to be very successful in the first vehicle mass-produced: Henry Ford’s Model T automobile. Concerns about the design of jobs evolved to focus on social aspects of human behavior in organizations with the Hawthorne studies (e.g., Mayo, 1930; Roethlisberger & Dickson, 1939) and socio-technical systems theory (Trist & Bamforth, 1951), but it was the job characteristics model (JCM, Hackman & Oldham, 1976; 1980) that became one of the pivotal theories of job design and it

is still utilized today¹. In fact, management and organizational behavior experts have considered the JCM to be one of the theories in organizational behavior with the highest importance, scientific validity, and practical usefulness (Miner, 2003).

The JCM focuses on five intrinsic job characteristics: autonomy (i.e., the extent to which a job provides freedom, independence, and discretion in scheduling and determining how to perform the work), skill variety (i.e., the extent to which a job requires a variety of different activities and skills), task identity (i.e., the extent to which a job requires completion of a whole and identifiable piece of work – that is, doing a job from beginning to end with a visible outcome), task significance (i.e., the extent to which the job has a substantial impact on the lives of other people, inside or outside the organization), and feedback (i.e., the extent to which the work activities provide clear information about the effectiveness of one's performance) (Hackman & Oldham, 1976).

The enrichment of these five characteristics was proposed to lead to three critical psychological states – experienced meaningfulness, responsibility, and knowledge of results – which should in turn lead to outcomes such as increased job satisfaction and performance. The relationships between the five job characteristics, the critical psychological states, and the outcome variables were proposed to hold to the extent that employees had growth needs and job-relevant knowledge and skills. Research has shown that experienced meaningfulness is the key psychological state mediating the relationships between job characteristics and outcomes (Humphrey, Nahrgang, & Morgeson, 2007). Also, researchers have identified other psychological mechanisms mediating the effects of job characteristics and work outcomes, such as self-efficacy (Parker, 1998) and psychological empowerment (Liden, Wayne, & Sparrowe, 2000). Job characteristics have been shown to affect work attitudes such as job satisfaction, co-worker satisfaction, and organizational commitment (Humphrey et al. 2007), work behaviors such as performance, turnover, and absenteeism (Fried & Ferris, 1987), psychological outcomes such as work motivation, stress, and burnout (Parker & Wall, 1998), and physical outcomes such as blood pressure and cardiovascular disease (Ganster, Fox, & Dwyer, 2001; Melamed, Fried, & Fromm, 2001).

Although the JCM became the leading model of job design, it was also subject to various critiques (e.g., Parker & Wall, 1998; Roberts & Glick, 1981). As a result of changes in the

¹ In addition to the job characteristics model, there are four clusters of work design research (for a review, see Parker, Morgeson, & Johns, 2017): sociotechnical systems and autonomous work groups (e.g., Trist & Bamforth, 1951), job demands-control model (e.g., Karasek, 1979), job demands-resources model (e.g., Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), and role theory (e.g., Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964).

nature of work and organizations, contemporary conceptualizations of the job characteristics model go beyond the five task-related job characteristics, to include knowledge characteristics (such as job complexity and information processing), contextual characteristics (such as ergonomics and physical demands), and social characteristics (such as social support and feedback from others) of jobs (Morgeson & Humphrey, 2006).

Job design and age

Zacher and colleagues were the first to investigate relationships between job characteristics (particularly job complexity, i.e., the level of stimulating and challenging demands of the job), employee age, and work attitudes and behaviors. They found that although age is negatively related to perceived opportunities at work, that relationship is reduced in strength when there is high job complexity (Zacher & Frese, 2009). In a follow-up study, they found that such a relationship between age and perceived opportunities, when buffered by high job complexity, also leads to higher work performance (Zacher, Heusner, Schmitz, Zwierzanska, & Frese, 2010). Soon after, Truxillo et al. (2012) published a conceptual paper that would lay the ground for the proliferation of research on job design and age. In their work, the authors used lifespan development perspectives to put forth propositions on how different job characteristics might influence workers' satisfaction, engagement, and performance differently depending on their age. Of special relevance to our research is the suggestion made by the authors, based on SST assumptions, that older workers would prefer job characteristics that contribute to their emotional well-being at work, while younger workers would prefer job characteristics that contribute to their career advancement.

The empirical research that followed focused mostly on task and knowledge-related characteristics of the job. For instance, we know that older workers experience lower burnout and turnover intentions with increased skill variety, while younger workers experience less burnout and turnover intentions with increased task variety (Zaniboni, Truxillo, & Fraccaroli, 2013). Task variety is also more strongly related to the job satisfaction and work engagement of younger than older workers (Zaniboni, Truxillo, Fraccaroli, McCune, & Bertolino, 2014). Further, older workers respond to increased autonomy with higher levels of self-efficacy and performance but lower levels of job satisfaction and affective commitment than younger workers (Ng & Feldman, 2015).

Job design and age: The cases of social support and feedback

Given the focus of SST (Carstensen et al., 1999) on the importance of high-quality

relationships with social partners for the motivation of older individuals, it is puzzling that most empirical research on job characteristics and age has focused on task and knowledge job characteristics instead of social job characteristics, such as social support or feedback. While social support refers to opportunities for getting assistance and advice from others on the job (Karasek, 1979; Karasek et al., 1998) and includes friendship opportunities (Sims, Szilagy, & Keller, 1976), feedback refers to the extent to which others in the organization provide information about one's performance (Morgeson & Humphrey, 2006). Both social support and feedback can be *received* from others and *given* to others (Truxillo et al., 2012).

Studies focused on employee age differences in receiving and giving social support and feedback at work are scarce and very recent, and still provide an incomplete picture of how these social job characteristics might influence work outcomes differently for older versus younger workers. For instance, Bouville, Dello Russo, & Truxillo (2018) found that whereas receiving social support from one's supervisor was negatively related to absenteeism only for young employees (and more for white-collar than blue-collar workers), receiving support from coworkers was negatively related to absenteeism only for older white-collar employees. Further, a study on age differences in giving social support to others showed that high-quality contact with coworkers triggers empathic concern, which in turn leads to more instrumental and emotional social support provided to others, and this relationship is stronger for older versus younger employees (Fasbender, Burmeister, & Wang, 2020). Empirical evidence on age differences in receiving feedback shows that receiving feedback is important for both young and old employees, for different reasons. While older workers have a higher tendency to use feedback to gauge the quality of their social relations at work, younger workers have a higher tendency to use feedback to improve performance and achieve career goals (Wang, Burlacu, Truxillo, James, & Yao, 2015). To our knowledge, there are no studies specifically designed to investigate employee age differences in work outcomes, as a result of giving social support and feedback to others.

Using SST as a theoretical framework, as well as research on age-related socioemotional and generativity differences, we argue that receiving and giving social support and feedback should be more important to older workers, who privilege relationships that satisfy their needs for emotional well-being and social connectedness (Carstensen et al., 1999), as well as generativity (McAdams et al., 1993), than to younger workers. Older workers are not only more likely to seek positive interactions at work that contribute to their emotional well-being, but also are more skilled at such interactions. Older people are generally less neurotic (Roberts et al., 2006) and better at regulating their emotions (Gross et al., 1997). They also

engage in strategies that optimize positive social experiences and minimize negative ones by avoiding conflicts (Luong, Charles, & Fingerman, 2011).

SUMMARY

The unprecedented aging of the population is contributing to the aging of the workforce in most developed countries, which raises challenges for the economy of such countries, and for the management of organizations and employees. Managers will have to adapt management practices to keep their workers healthy, happy, and productive across longer career spans, and a first step to do that is to better understand how the needs, preferences, and abilities of older workers differ from those of younger workers. However, because aging is a multidimensional process that produces cognitive, physical, and socioemotional changes that are more heterogeneous with increasing age, it is hard to define exactly who is an older worker.

Despite the existence of several conceptualizations and measures of age, most researchers use chronological age as the main indicator of aging at work because it can be easily assessed and interpreted, thus facilitating the translation of research findings to the implementation of organizational practices. Nonetheless, age cutoffs to define who is an older worker should be avoided, and age should instead be used as a continuous variable in organizational research.

Research has shown that work motivation does not decline with age, but differences exist in what motivates older versus younger workers, and lifespan development theories have been used as theoretical frameworks to study these age differences. In this research, we use socioemotional selectivity theory to propose that high-quality interpersonal relationships in the workplace are especially important to older workers. In order to do that, we propose that the relational sides of organizational justice and job design – two leading theories of work motivation – are especially important to older workers.

Specifically, we investigate age differences in the importance of relational (i.e., interpersonal, informational, and procedural) justice (Chapter 3), explore if reactions to interpersonal justice – the most relational facet of organizational justice – vary depending on employee age (Chapter 4), and examine employee age differences in the importance of social support and feedback at work (Chapter 5).

CHAPTER 3.

THE IMPORTANCE OF RELATIONAL JUSTICE: A MATTER OF AGE?²

² This chapter has been submitted for publication as:

Marques, T., Patient, D., Ramos, S., & Bobocel, R. *The importance of relational justice: A matter of age?*

ABSTRACT

The aging of the worldwide population is changing the workforce composition in most developed countries. With increasingly older and age-diverse workforces, organizations need to tailor their management practices to the different needs of employees across the lifespan. In the current research, we integrate socioemotional selectivity theory with organizational justice to explore age differences in the importance attributed to different dimensions of organizational justice. We use mixed-methods and sample both employees and unemployed individuals for greater validity of our findings.

In Study 1, we conducted semi-structured interviews with age diverse employees ($N = 56$) to explore the salience of relational (i.e., interpersonal, informational, and procedural) justice versus non-relational (i.e., distributive) justice concerns at work. In Study 2, we used a cross-sectional field survey ($N = 123$) to investigate the relationships between employee age and the importance attributed to the different justice dimensions. In Study 3, we used a scenario-based experiment ($N = 170$) to examine age differences in the importance unemployed individuals attribute to relational (i.e., interpersonal) versus non-relational (i.e., distributive) justice when evaluating prospective jobs.

As hypothesized, results show that in most cases, relational justice is more important to older than younger individuals. Our research responds to calls to investigate the salience of justice dimensions for different age groups, and contributes to discussions in organizations, academia, and public policy on how to better manage an age-diverse workforce. Our findings provide theoretical implications for the study of organizational justice and aging, and have practical applications for organizations that strive to recruit, motivate, and maintain an age-diverse workforce.

INTRODUCTION

Fair treatment is of central importance to working life. Employees scrutinize how fairly they are treated by their organization, in terms of the outcomes they receive (distributive justice), the organizational procedures that affect them (procedural justice), the quality of explanations they are given (informational justice), and the respect and concern with which they are treated (interpersonal justice) (Colquitt, 2001). When employees feel fairly treated, they perform better and engage in more citizenship behaviors, are more satisfied with their jobs and their supervisors, and are more committed to the organization (e.g., Cohen-Charash & Spector, 2001; Colquitt et al., 2001; Colquitt et al., 2013).

Despite the overarching positive effects of organizational justice, not all employees perceive and react to fairness the same way. For instance, men are more sensitive to distributive injustice while women are more sensitive to procedural injustice (Khoreva & Tenhiälä, 2016). People high in agreeableness perceive higher levels of all justice dimensions while people high in neuroticism perceive lower levels of procedural and informational justice (Shi, Lin, Wang, & Wang, 2009). And people from countries high in individualism and uncertainty avoidance, and low in power distance and masculinity, respond more strongly to (in)justice (Shao, Rupp, Skarlicki, & Jones, 2013). Although research has examined how justice perceptions and justice reactions are affected by individual differences such as gender, personality, and national culture, the effects of age on perceptions of and reactions to justice have seldom been investigated.

However, as the workforce ages globally and at an unprecedented rate (United Nations, 2019; U.S. Bureau of Labor Statistics, 2013), the management of age diverse employees – and particularly, older employees – has emerged as a grand challenge for organizations, public policy, and academia. Understanding how age influences employees' work-related needs, preferences, and goals is a necessary and urgent step in order to adapt management practices to keep workers motivated, healthy, and happy during longer career spans. In the current research, we contribute to this endeavor by revisiting organizational justice from an aging perspective. Using lifespan developmental psychology, and in particular, socioemotional selectivity theory (Carstensen, 1991, 2006; Carstensen et al., 1999) as a theoretical framework, our primary goal is to investigate age differences in the importance of the different dimensions of organizational justice. In pursuing this goal, we use mixed research methods, and sample age-diverse employees and unemployed individuals from different nationalities and cultures in three studies.

With this research, our contributions are threefold. First, despite the ubiquity of employee age in the workplace, and a recent call for research on the salience of justice dimensions for different age groups (Fortin et al., 2016), employee age has received almost no attention from justice scholars. Our research advances organizational justice scholarship by widening current knowledge of the relationships between individual differences and workplace justice. Second, by focusing on both employees and potential job seekers, our research informs organizations on how to harness justice to retain and to attract age-diverse talent. Given that organizational justice is one of the leading process theories of work motivation (Latham & Pinder, 2005) with over 1000 published academic articles (Fortin et al., 2016), examining it through an age lens can provide valuable insights to organizations on how to better tailor their practices to the specific needs of age-diverse employees. Third, in using a lifespan perspective of developmental psychology to inform theories of organizational psychology, our research responds to calls for greater reciprocal influence between basic and applied psychology (Wiesenfeld & Brockner, 2012). Our findings substantiate the relevance of lifespan developmental perspectives to the work context (Rudolph, 2016).

THEORY AND HYPOTHESES

Organizational justice and the fulfillment of psychological needs

Organizational justice, usually measured as employee perceptions of fairness, is an important source of workplace motivation. Employee perceptions of high workplace fairness are associated with higher job satisfaction, affective commitment, evaluations of and trust in authorities, performance, and citizenship behaviors (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). In contrast, employee perceptions of low workplace fairness can result in withdrawal, retaliatory behaviors (Colquitt et al., 2001), theft (Greenberg, 1993b), increased quit intentions (Cohen-Charash & Spector, 2001), and adverse health outcomes, including insomnia (Greenberg, 2006) and cardiovascular disease (Kivimäki et al., 2005).

Research has shown four distinct dimensions of fairness to be important to employee attitudes and behaviors: distributive justice, procedural justice, informational justice, and interpersonal justice. Although related (Colquitt & Shaw, 2005), the justice dimensions can vary in their salience (Cojuharenco et al., 2011; Cojuharenco & Patient, 2013), their target (Lavelle, Rupp, & Brockner, 2007), and their antecedents and consequences (Cohen-Charash & Spector, 2001; Colquitt et al., 2001; Karam et al., 2019).

Three main perspectives have emerged to understand why organizational justice predicts

important work-related outcomes (Cropanzano, Rupp, Mohler, & Schminke, 2001). First, instrumental models of justice (e.g., Thibaut & Walker, 1975; Tyler, 1987) propose that justice matters because it is a *means* that ensures the attainment of a given *end*. That is, people are motivated by their own self-interest and procedures that provide control can increase the long-term favorability of outcomes. Second, relational models of justice (e.g., Lind & Tyler, 1988) posit that people care about fairness because it indicates a positive, full-status relationship with authority figures and within a collective. Finally, moral principles models of justice (e.g., Folger, 1998) argue that justice matters because we all have a basic respect for human dignity and worth, and we care about justice even when doing so offers no apparent economic or relational benefit. Thus, according to the multiple needs model of justice (Cropanzano, Byrne, et al., 2001), organizational justice can fulfill employees' psychological needs for instrumental control, relational belonging, and moral virtue.

Instrumental needs are directly addressed when outcomes are equitable (distributive justice) but can also be fulfilled when the procedures for the allocation of outcomes and the explanations for such procedures assure the fairness of current and future outcomes (procedural and informational justice). On the other hand, relational needs are directly addressed when people are treated with respect and dignity (interpersonal justice). Nonetheless, relational needs can also be satisfied when employees are reassured about their value and status in the group by the adequacy of the explanations about procedures they receive (informational justice) and by the way in which procedures are implemented; for example, transparently and with opportunities for voice (procedural justice) (Cropanzano, Byrne, et al., 2001).

Lifespan developmental psychology and socioemotional selectivity theory

To explore potential age differences in the importance of organizational justice, we draw on lifespan developmental psychology, which examines developmental challenges, achievements, and adaptive processes across the lifespan (Baltes, Staudinger, & Lindenberger, 1999). As individuals grow older, they experience growth and decline in cognitive and physical abilities, with successful aging defined as gains outweighing losses (Baltes & Baltes, 1990). Several lifespan development theories have been applied to the study of aging and work motivation, including the assimilative and accommodative coping theory (Brandtstädter & Renner, 1990), the motivation theory of control (Heckhausen & Schulz, 1995), the selection, optimization, and compensation theory (Baltes & Baltes, 1990), and the socioemotional selectivity theory (Carstensen et al., 1999).

Socioemotional selectivity theory (SST; Carstensen, 1991, 1992, 2006; Carstensen et al., 1999) proposes that age changes our perception of time, from time since birth to time until death. This shift in the perception of time is proposed to affect the goals people pursue, particularly in terms of the choices people make regarding their social relationships. When individuals are young, they perceive a lot of time available in the future, and because of that, prioritize social contact with a diverse and extensive social network that can prove useful to their future career development. In contrast, as individuals age, they start to perceive their future as constrained in terms of time, which makes them more focused on the present moment. As a result, older individuals pursue social interactions for the emotional well-being they provide rather than for their instrumental value. This increases the importance to older individuals of maintaining positive emotions through close and high-quality social relationships.

Empirical research has provided support for core SST propositions, including that older people place greater emphasis than younger people on the affective potential of social partners, versus on the instrumental value that social partners may have in the future (Carstensen, 1995). SST reasoning has been applied in research on aging and work, for instance relating to job design (e.g., Zaniboni et al., 2014), and psychological contracts (e.g., Bal, De Lange, et al., 2013). We build on such studies to explore age differences in the importance of organizational justice.

Organizational justice and age

Consistent with SST reasoning, older individuals perceive less time available in the future and, because of that, focus more on short-term goals intended to fulfill more immediate relational needs, such as social connectedness, social support, and emotion regulation (Carstensen et al., 1999). As interpersonal justice is the most relational facet of organizational justice, and a way of fulfilling the same relational belonging needs that are important to older individuals (Cropanzano, Byrne, et al., 2001), interpersonal justice should be more important to older than younger employees.

Indeed, Brienza and Bobocel (2017) found that interpersonal justice predicted emotional exhaustion and deviance for older but not younger workers. As informational and procedural justice also satisfy relational belonging needs (Cropanzano, Byrne, et al., 2001), we propose that they should also be more important to older workers to whom meaningful and high-quality social relationships assume highest priority (Carstensen et al., 1999). Related research found that procedural justice predicted sickness absences for older but not younger employees

(Tenhiälä et al., 2013) and that procedural justice predicted stress more strongly for older than younger employees (Yaldiz et al., 2018). As distributive justice mostly satisfies the need for control of outcomes (Cropanzano, Byrne, et al., 2001), we do not expect age to influence the importance of distributive justice. Thus, we hypothesize:

Hypothesis 1: Justice dimensions that satisfy relational needs (i.e., interpersonal, informational, and procedural justice – but not distributive justice) are more important with increasing age.

OVERVIEW OF STUDIES

We use a mixed-method approach, combining qualitative and quantitative techniques, to explore our hypothesis in three studies. To investigate age differences in the importance of justice dimensions, Study 1 used in-person interviews with employees from several organizations ($N = 56$) and Study 2 used a cross-sectional field survey with employees from a specific organization ($N = 123$). Study 3 is a within-subjects scenario based-experiment ($N = 170$) that investigates age differences in the importance of justice dimensions among unemployed individuals.

STUDY 1

In Study 1, we explore age differences in the salience of justice concerns. We expect interpersonal, informational, and procedural (but not distributive) justice to be more important with increasing employee age (Hypothesis 1).

Method

Procedure

We conducted 56 individual semi-structured interviews. Participants read and signed an informed consent form prior to the start of interviews, which lasted an average of 36 minutes and ranged from 14 to 90 minutes. All interviews were audio recorded and transcribed, resulting in a total of approximately 2035 minutes of audio and 748 pages of transcriptions. All interviews were coded using content analysis (e.g., Krippendorff, 2004) and MaxQDA software.

Interview Script

The interview script was developed using Cassel and Symon's (2004) recommendations: questions were designed to focus on how participants describe and make sense of particular elements of their lives (in this case, their working lives). Given our interest in exploring the salience of different justice concerns, we decided not to explicitly ask participants about fairness, but rather to examine whether employees spontaneously mentioned fairness. Thus, the script consisted of exploratory, open-ended questions about what interviewees found good and bad about their jobs, organizations, and supervisors (e.g., "What makes a workday especially good?" and "What is most important for you in your relationship with your supervisor?"; for the complete script, please see Appendix A).

We also followed recommendations by Patton (2002) regarding the timing and framing of questions: 1) the script started with behaviors, activities, and experiences, which prompted the interviewer to talk descriptively; 2) we then solicited opinions and feelings, building on and probing for interpretations of the experiences; and 3) we concluded by asking participants if there was anything else we should have asked during the interview.

Content Analysis

While none of the questions asked specifically about fairness, our goal was to explore differences among age groups in spontaneous references to justice dimensions. Therefore, references to respect, concern for one's plight, and treatment with dignity (Greenberg, 1993a) were coded as interpersonal justice. References to accuracy and quality of explanations about procedures (Greenberg, 1993a), including truthfulness (Colquitt, 2001) were coded as informational justice. References to the consistency, bias-suppression, accuracy, correctability, representativeness, and ethicality of procedures (Leventhal, 1980), along with voice (Folger, 1977), were coded as procedural justice. Finally, references to the perceived fairness of outcomes, such as salaries and professional opportunities in terms of equity, equality, and need (Deutsch, 1975) were coded as distributive justice.

The first author coded all interviews. After being trained by the first author, a doctoral student coded 14 of the 56 interviews (approximately 25%). A Cohen's kappa (κ) of .78 indicated substantial agreement among raters (Landis & Koch, 1977). All discrepancies were discussed until agreement was reached.

Participants

The sample comprises 56 workers. In order to compare and contrast justice concerns across age, we created three age groups³: up to 34 years old (18 “younger” workers), 35-49 years old (19 “middle-aged” workers), and 50 years or older (19 “older” workers). From the total sample, 21 participants are white-collar employees from a multinational company, 17 participants are teachers from an international school, and 18 participants are blue-collar employees from a variety of organizations. We selected these sub-groups to achieve heterogeneity in the sample: they are diverse in job complexity, education, and nationality. We also tried to balance gender when selecting participants (30 women and 26 men) and to ensure that age and tenure were not always associated, so that they were not confounded. Below we describe the process of getting access, sampling, and interviewing each sub-group of participants. For detailed demographic information on the sample, please see Table 3.1.

Table 3.1. Study 1 sample characteristics.

Age group	Age (years)	Organizational tenure (years)	Occupational group	Gender	Nationality
20-34	27	4	White-collar	M	Portuguese
	28	3	White-collar	M	Portuguese
	29	6	White-collar	M	Portuguese
	30	6	White-collar	F	Portuguese
	32	6	White-collar	F	Portuguese
	33	11	White-collar	F	Portuguese
	29	3	White-collar	F	Portuguese
	30	Less than 1 year	Teacher	M	British
	26	Less than 1 year	Teacher	M	German
	27	2	Teacher	M	Portuguese
	32	6	Teacher	F	Portuguese
	33	5	Blue-collar	M	Portuguese
	29	1	Blue-collar	M	Portuguese
	26	1	Blue-collar	M	Portuguese
	30	Less than 1 year	Blue-collar	F	Brazilian
	32	Less than 1 year	Blue-collar	F	Portuguese
	24	1	Blue-collar	F	Portuguese
29	9	Blue-collar	F	Portuguese	

³ There is agreement in the aging literature that treating age as a continuous variable is preferable to using age groups (Bohlman et al., 2018) because choosing cut-off points has no scientific underpinning (e.g., Schultz & Adams, 2007). However, due to the qualitative nature of Study 1 data, age groups were created to enable us to contrast justice concerns expressed during the interviews by participants of different ages. We created the age groups based on previous research (De Lange et al., 2006).

Age group	Age (years)	Organizational tenure (years)	Occupational group	Gender	Nationality
35-49	36	12	White-collar	M	Portuguese
	36	3	White-collar	M	Portuguese
	40	5	White-collar	M	Portuguese
	40	17	White-collar	F	Portuguese
	41	13	White-collar	F	Portuguese
	35	2	White-collar	F	Portuguese
	40	13	White-collar	F	Portuguese
	42	2	Teacher	M	South African
	37	1	Teacher	M	Hungarian
	37	6	Teacher	M	Irish
	48	Less than 1 year	Teacher	M	Portuguese
	35	6	Teacher	F	Portuguese
	39	5	Teacher	F	Portuguese
	39	7	Teacher	F	Portuguese
	39	1	Blue-collar	M	Portuguese
	39	1	Blue-collar	M	Portuguese
	42	2	Blue-collar	M	Portuguese
	35	6	Blue-collar	F	Brazilian
47	25	Blue-collar	F	Portuguese	
50+	64	28	White-collar	M	Portuguese
	52	24	White-collar	M	Portuguese
	50	20	White-collar	M	Portuguese
	53	29	White-collar	F	Portuguese
	52	27	White-collar	F	Portuguese
	52	17	White-collar	F	Portuguese
	53	8	White-collar	F	Portuguese
	59	6	Teacher	M	USA
	54	5	Teacher	F	Canadian
	55	2	Teacher	F	British
	52	1	Teacher	F	USA
	50	2	Teacher	F	Portuguese
	55	8	Teacher	F	Portuguese
	50	21	Blue-collar	M	Portuguese
	56	Less than 1 year	Blue-collar	M	Portuguese
	53	2	Blue-collar	M	Portuguese
59	11	Blue-collar	F	Brazilian	
51	5	Blue-collar	F	Portuguese	
55	5	Blue-collar	F	Portuguese	

White-collar workers

We obtained access for collecting data in the multinational company as part of a larger project in which the research team provided a seminar on age diversity management, a benchmarking study of age diversity management practices, and a report with the conclusions of the data collected. The sample of employees to interview was decided together with the HR team based on an analysis of the organizational charts and average ages for all departments. A sample was sought that would include workers in the three age-groups, and within each age group, a balance between non-managerial workers, middle-managers and first line managers, and a balance in gender within each of these nine age-hierarchical groups.

Participants were invited via email by the Human Resources Director, followed by a reminder from the research team. When invited individuals either declined to participate or did not answer following a reminder, new employees were selected using the same criteria and contacted. In total, 41 employees were invited, 21 of whom agreed to be interviewed. Participation was voluntary (i.e., participants were not paid). All interviews were conducted in Portuguese at the company headquarters in Portugal.

Teachers

We were granted access for collecting data in the international school within a partnership that included the research team providing a summary of the results to the school principal. Given the smaller size of the school, sample characteristics were not defined *a priori*, and all teachers were invited via email to participate. To encourage participation, names of interviewees were entered into a lottery in which one of every four participants would receive a 50€ gift certificate. Of 45 teachers invited, 17 agreed to be interviewed, four of whom received gift certificates through the lottery. All interviews were conducted in the school facilities in Portugal. Interviews were conducted either in Portuguese or in English, depending on the nationality and preference of each teacher. Nationalities included Portuguese, American, British, South African, Canadian, German, Irish, and Hungarian.

Blue-collar workers

Participants were selected from Católica-Lisbon Online Studies Panel (PEO), a panel of participants used for research and consultancy projects. An invitation email was sent to all panel members that were currently employed, living in the Lisbon district, and available to participate in face-to-face studies (234 participants). The email contained a brief description of the study and a screening survey for age and occupation. From the 217 responses to the

survey, we invited only blue-collar workers to be interviewed. The 18 individuals who accepted came from a variety of organizations and occupations, including domestic cleaning workers, security guards, factory workers, commercial truck drivers, nursing home attendants, mail carriers, and waste collectors. All participants were offered a 20€ gift certificate in exchange for participation.

Results

As our goal is not to generate or elaborate theory but to test existing theory as a function of different groups, we used the qualitative data to investigate frequency patterns (Bluhm, Harman, Lee, & Mitchell, 2011). Such an approach is common in mixed-method research (Gibson, 2017). In Table 3.2, we present the differences among the three age groups in spontaneous references to interpersonal, informational, procedural, and distributive justice during the interviews.

Table 3.2. Absolute and relative frequencies of justice concerns (Study 1).

	Age group			Total
	20-34	35-49	50+	
Interpersonal Justice	28 (28%)	34 (35%)	36 (37%)	98 (100%)
Informational Justice	6 (25%)	6 (25%)	12 (50%)	24 (100%)
Procedural Justice	21 (27%)	28 (35%)	30 (38%)	79 (100%)
Distributive Justice	22 (48%)	9 (19%)	15 (33%)	46 (100%)
<i>N</i> interviews	18 (32%)	19 (34%)	19 (34%)	56 (100%)

Results regarding the absolute frequency of each category (i.e., justice dimension) correspond to how many times participants mentioned the category during the interviews. Results show that interpersonal justice concerns were mentioned more frequently by the older group of workers (36 times) than by the middle-aged (34 times) and the younger group of workers (28 times). A similar age trend can be observed in the absolute frequencies of informational justice mentions (12 times by older workers versus 6 times by both middle-aged and younger workers) and procedural justice mentions (30 times by older workers, 28 times by middle aged, and 21 times by younger workers). On the other hand, this age pattern was not observed for distributive justice concerns, which were mentioned more by the younger

group of workers. Taken together, our data indicate that interpersonal, informational, and procedural justice concerns are more salient to older versus younger workers, while the same age-related pattern was not observed for distributive justice concerns, providing support for H1.

It is important to highlight two aspects of these findings. First, the interview script did not contain any questions about justice; rather participants were asked general questions about their jobs, supervisors, and organizations. Therefore, older workers spontaneously mentioned interpersonal, informational, and procedural justice more frequently than younger workers, indicating its importance to their work lives. Second, our sample of interviewees was balanced in terms of gender and diverse in terms of occupational categories (blue-collar, white-collar, and service), job complexity, educational level, nationality, and organizational tenure. This give us some confidence that our findings are not idiosyncratic.

STUDY 2

Study 2 is a cross-sectional field survey designed to replicate Study 1 findings with a quantitative study design. We expect interpersonal, informational, and procedural (but not distributive) justice to be more important with increasing employee age (Hypothesis 1).

Method

Procedure and participants

Data were collected in a multinational company in the fast-moving consumer goods in Portugal. All of the 378 employees were invited to participate in an online survey, via email sent by the HR Director encouraging them to participate, followed by reminders from the HR team. From the 378 employees invited, a total of 123 surveys were completed (a 33% response rate). Mean age was 40.5 years ($SD = 9.3$) and 58% of the sample was female. On average, participants had 6.1 years of tenure in the job ($SD = 6.1$) and 12.8 years of tenure in the organization ($SD = 9.4$).

Measures

Importance of justice dimensions

We measured the importance of interpersonal, informational, procedural, and distributive

justice by adapting Colquitt's (2001) scale to measure the importance of justice dimensions instead of perceptions of justice dimensions. Items were preceded by "Below is a set of sentences about work. People are generally different in the importance they attribute to these aspects (for some people some of these aspects are more important, for other people, other aspects are more important). How important is it for you that...?" All items were answered using a 7-point Likert-type scale from 1 (*Not important at all*) to 7 (*Very important to me*).

The importance of interpersonal justice was measured with three items, including "Your supervisor treats you in a polite manner" ($\alpha = .89$). The importance of informational justice was measured with three items, including "Your supervisor explains procedures thoroughly" ($\alpha = .71$). The importance of procedural justice was measured with three items, including "Procedures used to determine your salary, benefits and promotions are applied consistently" ($\alpha = .69$). Finally, the importance of distributive justice was measured with three items, including "Your salary, benefits and promotions reflect the effort you have put into your work" ($\alpha = .82$).

The measures were translated to Portuguese using the standard method of back-translation (Brislin, 1980). The measures were first translated to Portuguese by a bilingual speaker. Another bilingual speaker was asked to back-translate the same items to English without having access to the original measures. Finally, the few inconsistencies between the original and the new English version were discussed among the two translators, and the Portuguese version was reviewed to accommodate any changes.

Age

Age was measured as chronological age (number of years since birth).

Control variables

Data were collected on gender, organizational tenure, and job tenure, for use as covariates in the regression analysis. We controlled for the effect of gender given past research indicating that women are higher in interdependent self-construal while men are higher in independent self-construal (Cross & Madson, 1997), which suggests that women might value interpersonal justice to a higher degree than men. Also, both Sweeney and McFarlin (1997) and Khoreva and Tenhiälä (2016) have found that men are more sensitive toward distributive injustice while women are more sensitive to procedural injustice.

We also controlled for the effects of organizational tenure and job tenure (in years), as these variables are typically highly correlated with age and may serve as alternative

explanations for our findings (North, 2019). Finally, we also included the following question: “Do you consider that your current salary is sufficient to fulfill your needs?” (Yes/No) and used it to control for its potential effect on the importance attributed to distributive justice.

Results

Means, standard deviations, Cronbach’s alphas, and correlations among variables are shown in Table 3.3. Age was highly correlated with both organizational tenure ($r = .833, p < .001$) and job tenure ($r = .583, p < .001$), as expected. While organizational tenure was not correlated with the importance of justice dimensions, job tenure was negatively correlated with the importance of distributive justice ($r = -.251, p < .001$), which means that employees with lower job tenure consider distributive justice to be more important than employees with higher tenure on the job. In addition, and as expected, gender was negatively associated with the importance of interpersonal justice ($r = -.202, p < .001$), which means that women place more importance on interpersonal justice than do men.

Hypothesis 1 proposed that interpersonal, informational, and procedural justice are more important with increasing employee age, while distributive justice is not. To test Hypothesis 1, we conducted four multiple linear regression analyses with the importance of interpersonal, informational, procedural, and distributive justice as criterion variable in each regression. We included employee age as the focal predictor, and gender, organizational tenure, and job tenure as control variables.

Results in Table 3.4 show that, when controlling for gender, organizational tenure and job tenure, employee age positively predicts the importance of interpersonal justice ($b = .368, SE = .016, t = 2.253, p = .026$), informational justice ($b = .436, t = -2.042, p = .010$), and procedural justice ($b = .376, t = 2.313, p = .022$), as expected. On the other hand, results show that, when controlling for gender, organizational and job tenure, and the sufficiency of the salary to satisfy employees’ needs, the relationship between employee age and distributive justice is non-significant ($b = .072, t = .437, p = .663$). This means that while interpersonal, informational, and procedural justice are more important to older than younger workers, the importance of distributive justice is unrelated to employee age. The results provide support for H1.

Table 3.3. Means, standard deviations, Cronbach's alphas, and correlations (Study 2).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age	40.46	9.31								
2. Gender ^a	-	-	-.042							
3. Organizational tenure	12.8	9.44	.833***	-.113						
4. Job tenure	6.06	6.86	.583***	-.087	.564***					
5. IINTJ ^b	6.47	0.92	.037	-.202***	-.044	-.141	(.89)			
6. IINFJ ^c	6.02	1.02	.150	-.137	.050	-.020	.647***	(.71)		
7. IPJ ^d	6.19	0.87	.058	-.169	-.014	-.172	.584***	.754***	(.69)	
8. IDJ ^e	6.42	0.83	-.092	-.073	-.081	-.251***	.415***	.582***	.726***	(.82)

Notes. *N* = 123. ^a 0 = female, 1 = male; ^b Importance of interpersonal justice; ^c Importance of informational justice; ^d Importance of procedural justice; ^e Importance of distributive justice.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3.4. Regression analyses predicting the importance of justice dimensions (Study 2).

Predictor	Importance of interpersonal justice			Importance of informational justice			Importance of procedural justice			Importance of distributive justice		
	<i>B</i>	<i>SE</i>	<i>b</i>	<i>B</i>	<i>SE</i>	<i>b</i>	<i>B</i>	<i>SE</i>	<i>b</i>	<i>B</i>	<i>SE</i>	<i>b</i>
Constant	5.675***	.498		4.704***	.560		5.363***	.467		6.502***	.457	
Age	.036*	.016	.368	.048**	.018	.436	.035*	.015	.376	.007	.015	.072
Gender	-.024	.016	-.234	-.328	.184	-.159	-.349*	.154	-.200	-.153	.151	-.091
Org tenure	-.435**	.164	-.242	-.027	.018	-.246	-.016	.015	-.174	.004	.014	.050
Job tenure	-.032*	.015	-.240	-.022	.016	-.149	-.039**	.014	-.311	-.039**	.013	-.322
Salary need										-.268	.153	-.158
<i>R</i> ²	.105**			.078*			.112**			.077*		

Notes. *N* = 123. ^a 0 = female, 1 = male.

* *p* < 0.05, ** *p* < 0.01, *** *p* < 0.001

STUDY 3

In Study 3, we examined Hypothesis 1 in a within-subjects scenario-based experiment which allows firmer conclusions regarding causality. In brief, we presented unemployed individuals with two job ads, one in which relational justice was salient in the company values, and another in which non-relational justice was salient. To keep the design manageable to two ads, relational justice was operationalized as interpersonal justice (not informational or procedural) as interpersonal justice is the most relational justice dimension. Non-relational justice was operationalized as distributive justice as in Studies 1 and 2. As in previous studies, we expect interpersonal (but not distributive) justice to be more important to older than younger individuals (Hypothesis 1). More specifically, in the context of Study 3, we expect that, with increasing age, individuals will display more positive attitudes towards a job in a company focused on interpersonal justice, whereas we do not expect such age differences on attitudes towards a job in a company focused on distributive justice.

Method

Procedure

We asked participants to imagine that they were looking for a job as an Insurance Claims Clerk and presented them with two fictitious job ads (Company A and Company B). Both job ads had equivalent but slightly differently worded job descriptions and a list of the company's values. Company A's values emphasized distributive justice ("Performance-based recognition" and "Career advancement"), and Company B's values emphasized interpersonal justice ("Respect for people" and "Concern for each individual employee"). The ads also contained other company values as fillers. Both the equivalent job descriptions and filler values were counterbalanced across conditions, to reduce eventual confounding effects. For the complete job ads, please see Appendix C.

To ensure that participants understood the differences between the job ads, in terms of interpersonal and distributive justice, participants were asked to match Company A and Company B to the corresponding values immediately after reading the job ads. When participants failed to link the company to the corresponding values, they were sent back to the job ads, and asked to read them again. After they passed this attention check, participants responded to the measures to assess how important they considered interpersonal versus distributive justice (i.e., our dependent variables): (1) they were asked to select which job they

would apply for, (2) they were asked how attracted they were to Company A in comparison to Company B, and (3) they were asked about how much they perceived their values to match the values of Company A and Company B. Finally, they were asked to provide demographic information (see Measures below).

Participants

Data were collected through Amazon Mechanical Turk (MTurk), an online survey platform (for details regarding quality of the platform, see Buhrmester, Kwang, & Gosling, 2016; Landers & Behrend, 2015). Following best practices for the use of online panels (e.g., Cheung, Burns, Sinclair, & Sliter, 2017), we took the following measures to increase the quality of our sample: 1) selected only participants with a 99% approval rate on MTurk; and 2) included one attention check in the survey (e.g., “please select button 5 – just making sure everyone is following survey instructions”). We recruited 225 participants from the US and paid \$1.00 to each participant. To increase ecological validity, we recruited only participants with work experience but unemployed at that moment.

Following recommendations by Bohlmann et al. (2018), we recruited a similar number of participants across ages: 75 participants aged 18-34, 75 participants aged 35-49, and 75 participants aged 50 or above. From the 225 initial responses, 55 were deleted because they either attempted to answer the survey multiple times, changing answers in the screening questions (employment status and age) ($N = 32$), failed attention checks ($N = 3$), or answered the question “Why [would you choose Company A or B]?” with answers that signaled that the participant was answering randomly ($N = 3$), focused on the way the ad was written ($N = 8$), or referred to the job description or the filler values ($N = 9$), instead of focusing on interpersonal or distributive justice. The final sample comprises 170 participants.

Mean age was 44.5 years ($SD = 13.9$) and 37.1% of the sample was male. On average, participants had 20 years of work experience. All participants were unemployed; 47.1% were looking for a job and 58.2% planned to look for a job in the upcoming 6 months. Concerning the highest education achieved, 32.4% had high school education, 23.5% had community college education, 29.4% had university education, and 14.7% had graduate school education.

Measures

In Study 3, we used participants’ intentions to apply for either Company A or Company B, how much they felt attracted to Company A compared to Company B, and how much they felt their values aligned with the values of both Company A and Company B, as indices of

how important they consider distributive versus interpersonal justice when evaluating prospective jobs. Therefore, we measured as dependent variables: (1) intention to apply (for either company A or company B), (2) organizational attractiveness (of Company A compared to Company B), and (3) person-organization fit of both Company A and Company B. We also measured age as our main predictor and included control variables as additional predictors.

Intention to apply for Company A or Company B

Intention to apply for either Company A or Company B was measured with one question developed for this study: “Imagine that you can only apply to one of these job positions. Which one would you choose?”.

Organizational attractiveness of Company A compared to Company B

Organizational attractiveness was assessed with four items adapted from Highhouse, Lievens, and Sinar (2003), by adding a referent (Company B) to compare Company A to. A sample item is “For me, Company A would be a better place to work than Company B” ($\alpha = .98$). The items were answered using a 7-point Likert scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Person-Organization Fit with Company A and Company B

Person-organization fit was assessed with three items from Cable and Judge (1996) and was measured twice, once for each job ad/company. A sample item is “I feel my values “match” or fit Company A (B) and employees in this organization” ($\alpha = .97$ for Company A and $\alpha = .95$ for Company B). The items were answered using a 7-point Likert scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Age

Age was measured as chronological age (number of years since birth).

Control variables

Data were collected on gender, years of work experience, and education, for use as control variables. We controlled for the effect of gender as in Study 2 and for the same reasons. Given that age is not experimentally manipulated, we also controlled for the effects of years of work experience and education, as these variables are likely to be correlated with age and may serve as alternative explanations for our findings (North, 2019).

Results

Means, standard deviations, Cronbach's alphas, and correlations among variables are shown in Table 3.5. As predicted, age was positively correlated with both years of work experience ($r = .849, p < .001$) and education ($r = .171, p = .026$). In addition, and as expected, gender was negatively associated with P-O fit with Company B, i.e., with the company focused on interpersonal justice ($r = -.165, p = .031$), such that women perceived a higher fit than men with the company focused on interpersonal justice.

Hypothesis 1 proposed that the importance of interpersonal justice increases with age, whereas the importance of distributive justice does not. In Study 3, we tested the effect of age using as indicators of the importance of interpersonal versus distributive justice: (1) participants' intentions to apply for, (2) attractiveness towards, and (3) person-organization fit with an organization focused on interpersonal justice versus an organization focused on distributive justice.

Intention to apply for Company A or Company B

To test age differences in the intention to apply either for the company focused on distributive justice (Company A) or for the company focused on interpersonal justice (Company B), and given the binary nature of this dependent variable, we used logistic regression. We included age as the independent variable, the intention to apply for either the company focused on interpersonal justice, or the company focused on distributive justice as the dependent variable, and gender, years of work experience, and education as control variables. Results revealed that the company chosen by participants did not depend on their age ($B = -.023, SE = .021, Wald = 1.159, exp b = .977, p = .282$). These findings fail to support H1.

Organizational attractiveness of Company A compared to Company B

To test age differences in organizational attractiveness, and given the continuous nature of this dependent variable, we used multiple linear regression analysis. We included age as the independent variable, organizational attractiveness as the dependent variable, and gender, years of work experience, and education as control variables. Table 3.6 shows that age negatively predicted organizational attractiveness of Company A (compared to company B). In other words, with increasing age, participants feel more attracted towards the company that focus on interpersonal justice instead of the company that focuses on distributive justice ($B = -.044, SE = .022, t = -2.018, p = .045$). These findings provide support to H1.

Table 3.5. Means, standard deviations, Cronbach's alphas, and correlations (Study 3).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age	44.55	13.91								
2. Gender ^a	-	-	.060							
3. Work experience	20.32	12.63	.849***	-.050						
4. Education	-	-	.171*	-.042	.107					
5. Intention to apply	.54	.50	-.106	.100	-.075	.026				
6. Org. attractiveness	4.24	2.08	-.142	.090	-.074	.019	.920***	(.98)		
7. P-O Fit A	4.55	1.66	-.118	.085	-.042	-.076	.755***	.806***	(.97)	
8. P-O Fit B	5.03	1.29	.133	-.165*	.108	-.058	-.619***	-.645***	-.455***	(.95)

Notes. *N* = 418. ^a 0 = female, 1 = male.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3.6. Linear regression analysis predicting organizational attractiveness to Company A compared to Company B (Study 3).

Predictor	<i>B</i>	<i>SE</i>	<i>b</i>
Constant	5.851	.883	
Gender ^a	-.356	.328	-.083
Work experience	.029	.024	.175
Education	.106	.151	.055
Age	-.044*	.022	-.295
<i>R</i> ²	.038		

Notes. *N* = 170. ^a 0 = female, 1 = male.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Person-organization fit of Company A and Company B

Finally, to test age differences in person-organization fit, and given that we measured it twice (once in respect to Company A and once in respect to Company B) we used repeated measures ANOVA. We included P-O fit (to Company A and to Company B) as the within-person factor and age, gender, education, and work experience as covariates. Results yielded a marginally significant interaction effect of P-O fit by age ($F(1,166) = 3.251, p = .073, \eta_p^2 = .019$).

Decomposing the interaction effect, simple pairwise comparisons showed that for younger participants (mean age $-1.5 SD$, at approximately 24 years old), there were no significant differences between P-O fit with Company A ($M = 4.81, SE = .233$) and P-O fit with Company B ($M = 4.76, SE = .179, F(1, 166) = 0.018, p = .893, \eta_p^2 = .000$). On the other hand, older participants (mean age $+1.5 SD$, at approximately 65 years old), reported a lower P-O fit with Company A ($M = 4.29, SE = .233$) than with Company B ($M = 5.30, SE = .179, F(1, 166) = 8.313, p = .004, \eta_p^2 = .048$). Figure 3.1 shows that older participants reported higher P-O fit with the company that focuses on interpersonal justice than with the company that focuses on distributive justice. These findings provide support for H1.

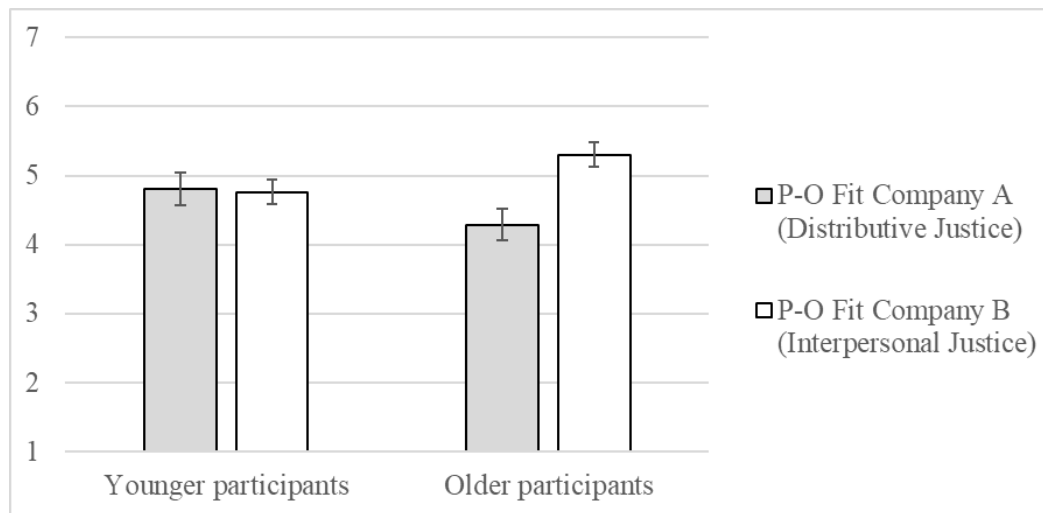


Figure 3.1. Interaction between age and P-O Fit, plotted at ± 1.5 SD around the mean of chronological age (Study 3).

DISCUSSION

The current research investigated age differences in the importance of the different facets of organizational justice. Specifically, we looked at age differences in the importance of justice dimensions that fulfill relational needs (i.e., interpersonal, informational, and procedural justice). Results from the three studies showed that relational justice became more important with increasing age.

In particular, Study 1 showed that, when interviewed about their jobs and organizations, older employees mentioned interpersonal, informational, and procedural justice – but not distributive justice – concerns more than younger employees. Study 2 showed a positive relationship between age and the importance of interpersonal, informational, and procedural justice, while no relationship was found between age and distributive justice. Finally, Study 3 showed a positive relationship between the age of unemployed individuals and both attractiveness of, and person-organization fit with, an organization characterized by interpersonal justice, while no relationships were found between age and such reactions to an organization characterized by distributive justice.

Overall, the findings generally support our prediction that justice dimensions that satisfy relational needs are more important to older employees, which is consistent with SST reasoning that proposes that high-quality relationships are especially important to older people (Carstensen et al., 1999).

There are several reasons that contribute to our confidence in the results. Our findings are consistent across different study designs and analytic approaches: interviews in Study 1, a cross-sectional field survey in Study 2, and a scenario-based experiment in Study 3. Our study designs fall into one of Gibson's (2017) approaches to mixed-method research – content analysis of frequency patterns in qualitative data with quantitative modeling of relationships – which should contribute to the elaboration, generalization, triangulation, and interpretation of results. In addition, we sampled age-diverse individuals, both employed and unemployed, and from different nationalities and cultures.

Theoretical implications

Our research provides two major contributions to theory. First, it contributes to organizational justice literature by extending understanding of justice phenomena as a function of individual differences. We focus on employee age because, due to the aging of the population, workforces are becoming older and more age diverse (United Nations, 2019; U.S. Bureau of Labor Statistics, 2013). We build on the few studies that have examined age differences in reactions to specific justice facets (e.g., Brienza & Bobocel, 2017; Tenhiälä et al., 2013; Yaldiz et al., 2018) to examine age differences in the importance of the four dimensions of organizational justice. Our findings suggest that the needs fulfilled by fairness in the workplace – in particular, relational belonging needs – are more important to older than younger employees.

Second, our research contributes to applications of the lifespan perspective of developmental psychology, and particularly of SST, to the work context (Rudolph, 2016). By investigating age effects on the importance of justice dimensions that satisfy relational needs, we provide further evidence and applications for a key SST tenet: that as individuals age, they prioritize meaningful social relationships from which they can derive emotional well-being (Carstensen et al., 1999).

Practical implications

The aging of the workforce already is, or will soon be, a reality for many organizations. By looking at organizational justice – one of the most studied theories of work motivation (Latham & Pinder, 2005) – using an age lens, our research enriches the growing body of knowledge on how to better tailor organizational practices and managerial behaviors to the different needs of age-diverse employees. Our findings inform managers that fair interpersonal treatment (i.e., with respect and concern), fair decision-making procedures (i.e.,

transparent, accurate, consistent, bias free, and with opportunities for voice), and fair communication (i.e., timely and adequate justifications and explanations for decisions) are important to all employees, but are *especially* important to older employees.

To ensure that older employees perceive they are fairly treated by their manager, organizations can provide managers with training in organizational justice principles and applications (Skarlicki & Latham, 2005), in which interactions with subordinates can be role-played. Training for supervisors should also develop leadership skills in building strong relationships with older workers and in communicating in ways that make them feel like trusted and valued members of their team (Yaldiz et al., 2018).

Organizations can also incentivize the development of high-quality relationships between managers and their older subordinates through the design of feedback and recognition programs that contribute to satisfy older employees' relational needs (Wang et al., 2015), as well as through social events and teambuilding activities. Finally, our findings inform organizations that want to recruit senior talent about what is valued by older job seekers. Organizations can build their employer brands by stressing how the organization policies focus not only on age diversity but also on a culture of fair treatment in terms of respect for each individual employee.

Limitations and directions for future research

Our research also has limitations. In Study 3, the use of a scenario-based experiment, although useful to demonstrate causality, might lack realism; thus, we do not know whether participants would react the same way in a real situation. One result from Study 3 was also puzzling: while older individuals were more attracted towards and had a greater P-O fit with the company focused on interpersonal justice, they did not choose to apply more to that company. This suggests that there might be other factors affecting the decision of older individuals to apply for companies focused on interpersonal versus distributive justice. It also suggests that relational justice might be more important to retain than to recruit senior talent, which future research should investigate. In addition, while the measures for organizational attractiveness and P-O fit are attitudinal in nature, the measure for intention to apply is more behavioral. Future research should more thoroughly investigate age differences in attitudinal versus behavioral reactions to relational justice.

The current research also leaves some questions unaddressed, which future research should investigate. First, as our research investigates how age changes the importance attributed to the different justice dimensions, future research should build on these findings to

test how such changes in the *importance* attributed to relational justice affect justice *perceptions* and *reactions* of older workers. That is, if relational justice is more important to older workers, does that color how they perceive it (e.g., do they perceive a relational justice violation as more unfair than younger workers do?) and how they react to it (e.g., are they more willing to reciprocate than younger workers?).

Second, future research should empirically test age-related psychological mechanisms that might be responsible for the age effects. According to SST, older individuals perceive less time available into the future, and because of that, focus on short-term emotion regulation goals that they fulfill by developing and maintaining meaningful social relationships (Carstensen et al., 1999). Therefore, future research should test the role of future time perspective and emotion regulation goals (Lang & Carstensen, 2002) in driving the effects of age on the importance of, perceptions of, and reactions to relational justice.

Finally, our research shows that increasing employee age is associated with greater importance of relational types of workplace justice: interpersonal, informational, and procedural justice. Given that interpersonal justice is the most relational dimension of justice, future research should also investigate if there are situations and methodologies, other than the ones used here, that show differences among the three relational justice dimensions, in terms of their differential importance to different age groups.

CONCLUSION

The current research challenges the age-blind view of organizational justice, by highlighting the role of age on the importance people attribute to justice dimensions that fulfill relational belonging needs. By integrating lifespan development tenets from SST with the justice literature, we propose that relational (i.e., interpersonal, informational, and procedural) justice is especially important for older employees who prioritize high-quality relationships in the workplace. Our results generally support our prediction by showing that increasing age is associated with greater importance of interpersonal, informational, and procedural justice, but not distributive justice. Our research contributes to extend understanding of individual differences in justice phenomena and to expand applications of lifespan developmental psychology to the work context. We inform managers on how to use organizational justice to both retain and attract age-diverse talent.

CHAPTER 4.

EMPLOYEE AGE DIFFERENCES IN THE RELATIONSHIP BETWEEN INTERPERSONAL JUSTICE PERCEPTIONS AND TRUST IN SUPERVISOR⁴

⁴ This chapter has been submitted for publication as:

Marques, T., Patient, D. Bobocel, R., & Ramos, S. *Employee age differences in the relationship between interpersonal justice perceptions and trust in supervisor.*

ABSTRACT

The aging workforce is a major societal challenge that will affect managerial practices worldwide. Understanding how to better manage older employees is therefore of utmost importance for managers and organizations. By integrating lifespan developmental approaches with organizational justice and trust literatures, the current research investigates how and why employee age affects the relationship between interpersonal justice perceptions and trust in supervisor. In Study 4, we used a scenario-based experiment ($N = 418$) to examine the moderating role of employee age in the relationship between interpersonal justice perceptions and trust in supervisor. In Study 5, we used a two-wave survey ($N = 215$) to test one age-related psychological mechanism responsible for the age differences: emotion regulation goals. The results showed that interpersonal justice predicts trust in one's supervisor to a greater extent among older versus younger workers, and that these age-related differences can be explained by older workers' greater emotion regulation goals. Our findings extend applications of lifespan developmental psychology to the work context and advance scholarship in both organizational justice and trust. Our findings also provide practical applications on how to manage an increasingly older and age-diverse workforce.

INTRODUCTION

Greater longevity and lower birth rates are causing the population to age worldwide (United Nations, 2019). Along with extensions to the retirement age, and an increased employment rate of workers 55 and over, these changes are resulting in an unprecedented aging of the workforce (U.S. Bureau of Labor Statistics, 2013). Policy makers and practitioners are calling for solutions to better manage older workers, which requires a deeper understanding of how workers' preferences and expectations change across the lifespan. Despite the prevailing stereotype that older workers are less motivated than younger workers, overall work motivation does not decline with age (Ng & Feldman, 2012). Rather, as people age, they are motivated by different aspects of work (Inceoglu et al., 2012; Kooij et al., 2011), due to age-related changes in the goals pursued (Baltes et al., 1980; Heckhausen & Schulz, 1995; Kanfer & Ackerman, 2004).

According to socioemotional selectivity theory (SST; Carstensen, 1991; Carstensen et al., 1999), older people are motivated to pursue emotional well-being through the development and maintenance of close and meaningful social relationships. Despite this evidence, not much is known about the role of employee age in shaping the relationship that is arguably most important for every employee: that with their immediate supervisor. Although SST has been applied to research on how older workers' attitudes and behaviors are influenced by characteristics of the *job* (e.g., Zaniboni et al., 2014), and characteristics of the *employee-organization* relationship (e.g., Bal, De Lange, et al., 2013), little attention has been given to employee age effects on characteristics of the *employee-supervisor* relationship. Thus, extensive research on employee trust in supervisor and perceptions of supervisory fairness have yet to be extensively examined with an age lens, as they assume the same employee-supervisor dynamics, regardless of employee age.

Perceptions of fairness are a potent source of employee motivation, influencing key attitudes and behaviors at work (e.g., Colquitt et al., 2001; Colquitt et al., 2013). Fairness fulfills important employee psychological needs, including needs for belonging and positive social relations (Cropanzano, Byrne et al., 2001), the same needs proposed by SST to be especially important for older individuals (Carstensen et al., 1999). These needs are most directly addressed by respectful and polite treatment from one's supervisor (i.e., interpersonal justice). However, and despite a recent call for research on differences in the importance of different types of justice among age groups (Fortin et al., 2016), to date, only a few studies have examined age differences in employee reactions to interpersonal justice (e.g., Brienza &

Bobocel, 2017).

In the current research, we draw on SST (Carstensen et al., 1999) to derive hypotheses pertaining to how employee age affects the relationship between interpersonal justice and trust in supervisor. Based on the premise that high-quality relationships are more important to older individuals, our first objective is to investigate whether perceptions of interpersonal justice affect trust in the supervisor more strongly for older than younger workers. Our second objective is to investigate *why* employee age affects the relationship between interpersonal justice and trust in supervisor. SST proposes that older individuals value close and meaningful relationships because they prioritize emotion regulation goals. Therefore, we examine emotion regulation goals as a psychological mechanism driving the moderating effect of age in the relationship between interpersonal justice and trust in supervisor.

We aim to make three contributions to the literature. First, we extend understanding of how employee age can affect reactions to organizational justice, and in particular to interpersonal justice, the most relational dimension of justice. Whereas research has examined how justice perceptions and reactions can be influenced by personality (e.g., Colquitt, Scott, & Shaw, 2006; Shi et al., 2009), gender (e.g., Khoreva & Tenhiälä, 2016; Sweeney & McFarlin, 1997), and culture (e.g., Game & Crawshaw, 2017; Silva & Caetano, 2016), the effects of employee age have seldom been investigated.

Second, we build on the few studies that investigated employee age as a moderator of the relationship between justice perceptions and work outcomes, but that focused on negative outcomes such as absenteeism (Tenhiälä et al., 2013) and stress (Yaldiz et al., 2018), to instead focus on age as a moderator of the relationship between justice perceptions and a positive outcome for both employee and organization: trust in the supervisor. Trust is a central motivator of cooperation in organizations (Tyler, 2016) and one of the most important indicators of high-quality employee-supervisor relationships, mediating effects of justice perceptions on both in-role and extra-role performance (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012).

Third, we build on studies that have examined age as a moderator of relationships between interpersonal justice perceptions and work outcomes, but which did not investigate a psychological mechanism responsible for the role of age (e.g., Brienza & Bobocel, 2017), and test emotion regulation goals as an age-related psychological mechanism. By combining insights from organizational justice and trust research with socioemotional selectivity theory, we extend understanding of lifespan development processes in the work context, and respond to calls for direct, theory-driven, and adequate measurement of lifespan constructs in the work

domain (Bohlmann et al., 2018).

THEORY AND HYPOTHESES

A lifespan perspective on adult development and work motivation

The lifespan perspective on human development has emerged as an important theoretical foundation for understanding the role of age in the work context (Rudolph, 2016). In contrast to stage development theories that argue that development stops at early adulthood, lifespan approaches view development as a fluid, continuous, and lifelong process (Baltes et al., 1980). Several lifespan development theories have been proposed for the study of aging and work, including SST (Carstensen et al., 1999).

SST argues that as people age, there are changes in the socioemotional goals they pursue, which influence their preferences regarding social interactions. When individuals are young, they focus more on the future and tend to prioritize long-term knowledge acquisition goals that can optimize future career possibilities. As individuals age, they focus more on the present and attach greater importance to goals from which emotional meaning can be derived in the short-term, including emotion regulation, social support, and social connectedness. As a result, younger people pursue a larger and more diverse set of social relationships, while older people pursue a lower number of close and high-quality social relationships. The reason for the difference in social goals is perceptions of time available in the future, from expansive and open-ended at younger ages to limited and restricted at older ages.

Empirical research has provided support for core SST propositions, including that older people place greater emphasis than younger people on the affective potential of social partners, versus on the instrumental value that social partners may have in the future (Carstensen, 1995). SST reasoning has been integrated in research on aging and work, for instance relating to job design (e.g., Zaniboni et al., 2014), psychological contracts (e.g., Bal, De Lange, et al., 2013) and human resource practices (Kooij et al., 2010). We build on such studies to make predictions about the relationship between interpersonal justice and trust in supervisor, for older versus younger employees.

Organizational justice, relational needs, and employee age

Organizational justice research has focused on employee perceptions of fairness of outcomes (distributive justice), formal procedures (procedural justice), explanations (informational justice), and quality of interpersonal treatment (interpersonal justice), usually in the context of

workplace decisions and allocations affecting employees (Colquitt, 2001). Research has found all four justice dimensions to be important in predicting employee attitudes and behaviors, such as job satisfaction, organizational commitment, and organizational citizenship behaviors (Colquitt et al., 2001; Karam et al., 2019).

Employee fairness perceptions are an important source of work motivation because they fulfill important psychological needs, including needs for control, relational belonging, and moral virtue (Cropanzano, Byrne et al., 2001). Interpersonal justice fulfills relational needs because being treated with dignity, respect, and politeness indicates a high-quality relationship with authority figures. In contrast, when employees are treated with disrespect in their organizations, and especially in encounters with their immediate supervisor, they experience intense and personal pain (Bies, 2001).

In the current research, we argue that interpersonal justice is a way of fulfilling the relational needs that are prioritized by older individuals (Cropanzano, Byrne et al., 2001). Indeed, research has found that older (but not younger) employees report less emotional exhaustion and deviance when they perceive high (versus low) interpersonal justice (Brienza & Bobocel, 2017).

Interpersonal justice and trust in supervisor: the moderating role of age

People tend to reciprocate the (un)fairness they receive with attitudes and behaviors targeted at the source to whom they attribute the (un)fair treatment (Masterson et al., 2000). While distributive and procedural justice often depend on top management decisions and organizational level practices, informational justice and, especially, interpersonal justice are often substantially under the discretion of supervisors (Scott, Colquitt, & Paddock, 2009). As a result, employees tend to hold supervisors accountable for interpersonal treatment. Previous research has shown that employee reactions to interpersonal justice tend to be directed toward the supervisor rather than toward the organization (Colquitt et al., 2001; Masterson et al., 2000; Tyler & Bies, 1990;).

One key relational outcome of interpersonal justice is trust in supervisor (Colquitt et al., 2001; Dirks & Ferrin, 2002; Lewicki, Wiethoff, & Tomlinson, 2005), defined as a willingness to be vulnerable to the actions of another person, because of positive expectations regarding their ability, benevolence, and integrity (Mayer, Davis, & Schoorman, 1995). Employee trust in supervisor has been related to a range of positive organizational outcomes, including job performance, organizational citizenship behaviors, organizational commitment, and job satisfaction (Dirks & Ferrin, 2002).

The positive relationship between interpersonal justice and trust in supervisor can be explained by social exchange theory (Blau, 1964). Social exchange theory distinguishes between economic and social exchange relationships, arguing that while the former are based on clear quid pro quo exchanges, the latter are based on more long-term and intangible exchanges which require trusting the other party. Trust in supervisor is an important precondition for employees to view their exchanges at work as part of a long-term and open-ended social exchange.

We argue that the positive relationship between interpersonal justice perceptions and trust in supervisor is stronger for older versus younger employees, for two reasons. First, and consistent with SST, older employees are more likely to prioritize meaningful social relationships. Because respect and concern received from supervisors are strong indications of a high-quality relationship, perceptions of interpersonal justice should positively affect trust in supervisor, especially for older employees.

Second, the strength and vulnerability integration model (SAVI; Charles, 2010) proposes that although older people are generally better at regulating their emotions (Gross et al., 1997), they experience more distress than younger people when they face extreme negative events, and they react more strongly. Such situations include times when people encounter the threat or loss of social belonging (Charles, 2010), and receiving interpersonally unfair treatment from the supervisor can be one such situation.

Hypothesis 1: Age moderates the positive relationship between interpersonal justice and trust in supervisor, such that the relationship is stronger for older than younger workers.

STUDY 4

Study 4 is a between-subject scenario-based experiment in which we investigate the moderating role of employee age in the relationship between interpersonal justice perceptions and trust in supervisor (see Figure 4.1). We expect employees' interpersonal justice perceptions to positively influence their trust in the supervisor, and we expect this relationship to be stronger for older employees (Hypothesis 1).

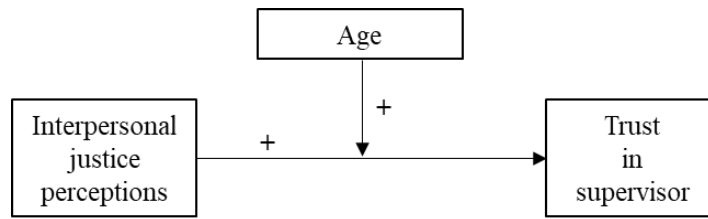


Figure 4.1. Study 4 model.

Method

Procedure

We presented participants with a work-related scenario adapted from Schminke, Ambrose, and Noel (1997). The vignette described a promotion decision made by a supervisor, in which the participant is treated by the supervisor with either high or low interpersonal justice. We operationalized interpersonal justice as the manner in which the supervisor explained the outcome of the promotion decision, either by speaking politely and being considerate (high interpersonal justice) or by speaking impolitely and being inconsiderate (low interpersonal justice).

Although we had no reason to think that our predicted interaction between age and interpersonal justice would differ as a function of the favorability of the decision outcome (i.e., whether the promotion was received or not), we varied outcome favorability to examine whether this is true. That is, in addition to manipulating interpersonal justice, participants read that they either received or did not receive the promotion. To isolate the potential effect of interpersonal justice on trust, we kept procedural justice (operationalized as having voice in the promotion process) high in all conditions. The complete vignette is below:

You and a co-worker, Chris, are Analysts in the same department and are both being considered for promotion to a Senior Analyst position. You believe that your productivity is higher, and your customers are more satisfied. A few weeks ago, your supervisor said he wanted to get some input about how the promotion should be made and invited you and Chris to a meeting. He listened to suggestions from both of you regarding the evaluation criteria to be used when making the decision. One week later, your supervisor called you into his office and told you that you received (*did not receive*) the promotion. He spoke politely (*impolitely*) to you and you felt he was being considerate (*inconsiderate*).

Participants were randomly assigned to one of four conditions: high/low interpersonal justice X high/low outcome favorability. After reading the vignette, participants responded a survey with items to check the manipulations, assess trust in supervisor, and obtain demographic information.

Participants

We recruited participants from Amazon Mechanical Turk (MTurk) (for details regarding quality of the platform see Buhrmester et al., 2016). Following best practices for the use of online panels (e.g., Cheung et al., 2017), we took the following measures to increase the quality of our sample: 1) selected only participants with a 99% approval rate on MTurk; 2) included two attention checks in the survey and deleted participants who failed them; and 3) asked participants at the end about their attention during the study and if we should use their data. To increase ecological validity, we recruited only participants with work experience.

We recruited 480 US participants (120 for each condition) in exchange for monetary compensation of US\$2.00. Following recommendations by Bohlmann et al. (2018), we sampled a similar number of participants across age groups (i.e., 160 aged 18-34, 160 aged 35-49, and 160 aged 50 or over), using a screening question for age at the beginning of the survey.

From the 480 initial responses, 62 were deleted either because participants answered the survey multiple times with different answers to the screening question, failed attention checks, said we should not use their data, or failed the manipulation check “did you get the promotion?” The final sample comprises 418 participants: 107 assigned to the high interpersonal justice/high outcome favorability condition, 114 to the low interpersonal justice/high outcome favorability condition, 98 to the high interpersonal justice/low outcome favorability condition, and 99 to the low interpersonal justice/low outcome favorability condition.

Mean age was 41.73 ($SD = 12.56$) and 54.1% of the sample was male. On average, participants had 20 years of work experience and worked 37 hours per week. In terms of education, 19.6% had up to high school, 19.6% had community college, 46.2% had university, and 14.4% had graduate school.

Measures

Manipulation Checks

First, we checked whether participants understood the scenario by asking them whether they received the promotion (yes or no). Second, we checked the experimental manipulation by asking participants to evaluate interpersonal justice, with two items from Colquitt (2001) (“Did your supervisor treat you in a polite manner?” and “Did your supervisor treat you with respect?”) ($\alpha = .98$), using a 7-point Likert-type scale from 1 (*To a little extent*) to 7 (*To a great extent*).

Trust in Supervisor

Trust in supervisor was measured with four items from Mayer and Davis (1999). The items were adapted by changing “top management” to “my supervisor” and preceded by “Considering the promotion decision situation, how much do you agree with the following sentences about your supervisor?” A sample item is “I would be willing to let my supervisor have complete control over my future in this company” ($\alpha = .79$). The items were answered using a 7-point Likert scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Age

Age was measured as chronological age (number of years since birth).

Control Variables

Data were collected on gender, education, and income, for use as covariates in the regression analysis, following the recommendations of Becker (2005). We controlled for the effect of gender given past research indicating that women are higher in interdependent self-construal while men are higher in independent self-construal (e.g., Cross & Madson, 1997), and that women may be more relationally oriented (more concerned about relationships with specific other people), while men may be more collectively oriented (more concerned about membership in a group) (e.g., Baumeister & Sommer, 1997); such research suggests that women and men may react differently to violations of respectful treatment. Given that age is not experimentally manipulated, we also controlled for the effects of education and income, as these variables are likely to be correlated with age and may serve as alternative explanations for our findings (North, 2019).

Results

Means, standard deviations, and correlations are shown in Table 4.1. We used an independent means *t*-test to check our manipulation of interpersonal justice. As expected, participants perceived higher interpersonal justice in the high interpersonal justice conditions ($M = 6.61$, $SD = 0.77$) than in the low interpersonal justice conditions ($M = 1.81$, $SD = 1.34$), $t(416) = -44.57$, $p < .001$.

H1 proposed that age moderates the positive relationship between interpersonal justice perceptions and trust in supervisor. To test H1, we conducted regression analysis with trust in supervisor as the criterion (see Table 4.2). We included interpersonal justice (dummy variable), employee age, and outcome favorability (dummy variable) as predictors, as well as the three two-way interaction terms among interpersonal justice, employee age, and outcome favorability. We also included gender, education, and income as control variables⁵.

As shown in Table 4.2, gender, interpersonal justice, and outcome favorability predicted trust in supervisor. Specifically, men trust the supervisor more than women, and participants trust the supervisor more when interpersonal justice was high versus low, and when outcome favorability was high versus low. Finally, a significant interaction was found between interpersonal justice and employee age ($B = 0.120$, $SE = .059$, $t = -2.042$, $p = .04$). To illustrate the interaction effect, we plotted the effect of interpersonal justice on trust at 1.5 *SD* above and below the mean of employee age (see Figure 4.2). Plotting interactions at 1.5 *SD* above and below the mean of employee age is appropriate, as this represents employees at approximately 23 and 61 years of age (i.e., adequately representing younger and older employees in the workplace context). Simple slopes analysis revealed that the effect of interpersonal justice on trust in supervisor was stronger for older ($B = 0.840$, $p < .001$) than for younger employees ($B = 0.480$, $p < .001$), providing support for H1.

Importantly, the two-way interactions between age and outcome favorability, and between interpersonal justice and outcome favorability, as well as the three-way interaction between age, interpersonal justice and outcome favorability were non-significant. This is very telling—it shows that the results are the same regardless of whether participants received the favorable or unfavorable outcome (i.e., the promotion), thereby revealing the primary importance of *interpersonal justice* for older employees' trust in supervisor.

⁵ To investigate whether the relationships are robust, we conducted the model with and without control variables (Bernierth and Aguinis, 2016) and the pattern of results remained unchanged.

Table 4.1. Means, standard deviations, Cronbach's alpha, and correlations (Study 4).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Age	41.73	12.56							
2. Gender ^a	0.54	0.50	-.209**						
3. Education ^b	3.55	0.97	.145**	.041					
4. Income ^c	3.56	2.54	.045	.260**	.398**				
5. Interpersonal justice ^d	.49	.50	-.004	-.018	-.085	-.025			
6. Outcome favorability ^d	.53	.50	.034	-.043	.059	.011	-.013		
7. Trust in supervisor	3.78	1.43	-.043	.079	-.050	.017	.457**	.294**	(.79)

Notes. *N* = 418.

^a. 0 = female, 1 = male.

^b. 1 = below high school to 5 = graduate school.

^c. 1 = less than \$30,000 to 9 = Over \$100,000.

^d. 0 = low, 1 = high.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 4.2. Regression analysis predicting trust in supervisor (Study 4).

Predictor	Trust in supervisor	
	<i>B</i>	<i>SE</i>
Constant	3.779	.058
Gender	.133*	.062
Education	-.036	.065
Income	.008	.066
IJ	.660***	.059
OF	.441***	.059
Age	-.041	.061
Age*Interpersonal justice	.120*	.059
Age*Outcome favorability	-.014	.059
Interpersonal justice*Outcome favorability	.092	.059
<i>R</i> ²	.323***	

Notes.

N = 418.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

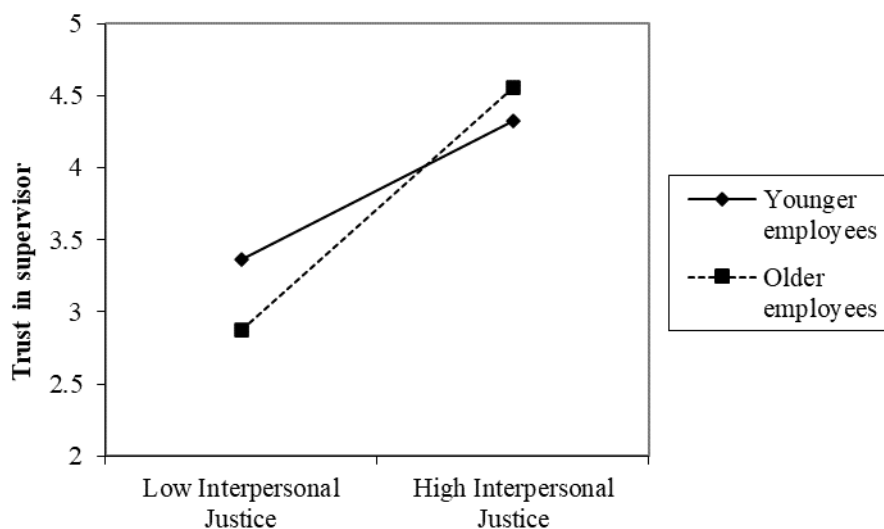


Figure 4.2. Interaction between interpersonal justice and age on trust in supervisor, plotted at ± 1.5 SD around the mean of chronological age (Study 4).

STUDY 5

Study 5 is a two-wave field survey designed to shed light on the psychological mechanisms responsible for the relationships observed in Study 4 (see Figure 4.3). Specifically, in Study 5 we investigate: 1) an age-related psychological mechanism responsible for the moderating effect of age on the relationship between interpersonal justice and trust, and 2) which dimension of trust is particularly affected by the interaction of interpersonal justice and employee age.

According to SST, older individuals prioritize high-quality relationships that satisfy their emotion regulation goals (Carstensen et al., 1999). Indeed, empirical evidence has shown that older people prioritize emotional regulation goals, while younger people do not (Lang & Carstensen, 2002; Penningroth & Scott, 2012). Thus, we investigate if emotion regulation goals mediate the moderating effect of age on the relationship between interpersonal justice and trust in supervisor.

Additionally, we investigate benevolence as the dimension of supervisor trustworthiness affected by the interaction of interpersonal justice and age via emotional regulation goals. Trust in supervisor is defined as a willingness to be vulnerable to the actions of another person, because of positive expectations regarding their ability, benevolence, and integrity. While benevolence refers to an altruistic orientation of the supervisor towards the employee, ability refers to supervisor's skills and expertise, and integrity refers to supervisor's adherence to a set of acceptable principles (Mayer et al., 1995). Whereas perceptions of ability and integrity are more cognitive, perceptions of benevolence are more affective and relational (McAllister, 1995; Tomlinson, Schnackenberg, Dawley, & Ash, 2020), which according to SST, should be especially important to older workers.

We therefore hypothesize:

Hypothesis 2: Age has an indirect moderation effect on the relationship between interpersonal justice perceptions and supervisor benevolence through emotion regulation goals; the positive relationship between interpersonal justice perceptions and supervisor benevolence is stronger for employees with high versus low emotional regulation goals.

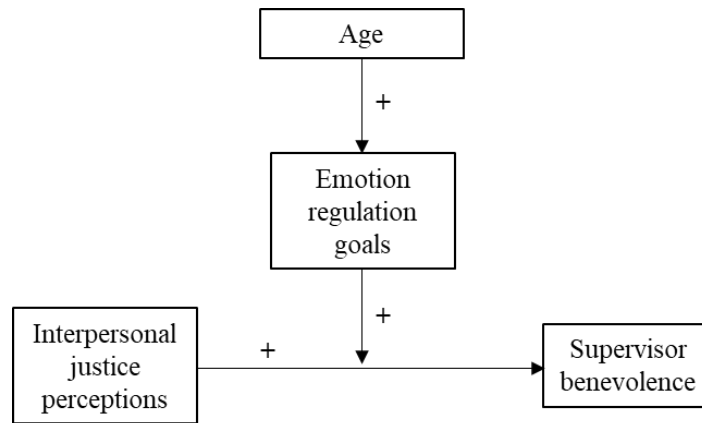


Figure 4.3. Study 5 model.

Method

Procedure

We collected data using two online surveys, spaced six months apart. We temporally separated the measurement of our variables to reduce concerns of common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). At Time 1, participants answered demographic questions (including age) and their interpersonal justice perceptions were measured. At Time 2, participants' socioemotional goals and perceptions of supervisor trustworthiness were assessed.

Participants

We recruited participants from MTurk and took the same measures to increase sample quality and ecological validity as in Study 4. Participants received monetary compensation of US\$1.00 for the first survey and US\$1.50 for the second survey. In Time 1, we recruited 750 currently employed US participants. Again, following recommendations by Bohlmann et al. (2018), we sampled a similar number of employees across age groups (i.e., 250 aged 18-34, 250 aged 35-49, and 250 aged 50 or over), using a screening question for age.

From the 746 complete responses, 306 were deleted from the sample either because participants answered the survey multiple times with different answers to the screening question, or because they failed attention checks. In Time 2, we invited the 440 participants from Time 1 and 289 completed the survey (a 66% response rate). Of those, 74 were deleted from the sample either because they lost or changed their job between Time 1 and Time 2, or because they failed attention checks, leaving a final sample of 215 employees.

The mean age was 44.90 ($SD = 12.58$) and 46.0% of the sample were male. On average, participants had 24 years of work experience and worked 39 hours per week. The most represented occupations included office workers (15.3%), engineers and high-tech professionals (13.9%), educators (11.2%), manufacturing and sales workers (8.8%), and finance professionals (7.4%). In terms of education, 15.3% had up to high school, 18.6% had community college, 40.0% had university, and 26.0% had graduate school.

Measures

Interpersonal Justice Perceptions

We assessed interpersonal justice perceptions at Time 1 with three items adapted from Colquitt (2001). Participants were instructed to think about organizational decisions made in recent weeks and asked “As your supervisor has interacted with you, to what extent have they...” and the items were “Demonstrated respect”, “Communicated politely” and “Treated you with dignity” ($\alpha = .91$). Participants responded to a 5-point Likert-type scale from 1 (*To a small extent*) to 5 (*To a large extent*).

Age

Age was measured at Time 1, as chronological age (number of years since birth).

Emotion Regulation Goals

We measured emotional regulation goals in Time 2 using two items from Lang and Carstensen (2002). Participants were asked “How important do you consider each of the following plans or goals, at the present time” and the items were “Have control over my feelings” and “Be autonomous in my feelings” ($\alpha = .77$). Participants responded to a 7-point Likert-type scale from 1 (*Not important at all*) to 7 (*Very important*).

Supervisor Benevolence

We measured supervisor benevolence at Time 2 using three items from Mayer and Davis (1999), including “My needs and desires are very important to my supervisor” ($\alpha = .97$). As in Study 4, we adapted the items to target the supervisor instead of top management. Participants responded to a 5-point Likert scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*).

Control Variables

We controlled for the effects of gender and education, as in Study 4, and for organizational tenure, as it is highly related to age and may serve as an alternative explanation (North, 2019).

Supplemental Variables

To rule out alternative explanations for results, we followed the recommendations of Spector (2019) and measured additional variables. Specifically, we assessed the other two trustworthiness dimensions – integrity and ability – at Time 2 as alternative outcomes, allowing us to conduct supplementary analyses to examine whether the predicted model is indeed specific to benevolence as theorized. We used Mayer and Davis' (1999) three items to measure ability (e.g., “I feel very confident about my supervisor’s skills”, $\alpha = .96$), and three items to measure integrity (e.g., “Sound principles seem to guide my supervisor's behavior”, $\alpha = .77$). Similarly, we assessed two other socioemotional goals – generativity and knowledge acquisition –, as alternative mediators. We used two items from Lang and Carstensen (2002) to measure generativity goals (e.g., “Help others to find their purpose in life”, $\alpha = .86$), and we developed two items to measure knowledge acquisition goals (“Receive good advice on important decisions” and “Be in contact with people who can provide useful information”, $\alpha = .87$).

Results

Means, standard deviations, and correlations are shown in Table 4.3. We conducted confirmatory factor analysis to ensure discriminant validity among our key variables. We first estimated a 3-factor model (i.e., interpersonal justice, emotion regulation goals, and supervisor benevolence), which provided good fit to the data, $\chi^2 (df = 17) = 37.103, p = .003, CFI = 0.99, RMSEA = 0.07, SRMR = 0.03$. All scale items loaded significantly on the expected latent construct (standardized factor loadings ranged from .690 to .975). Given the high correlation between interpersonal justice and benevolence, we additionally estimated a two-factor model, which had a less good fit to the data, $\chi^2 (df = 19) = 276.436, p < .001, CFI = 0.84, RMSEA = 0.25, SRMR = 0.09, \Delta\chi^2 = 239.333, \Delta df = 2, p < .001$. A one-factor model with all variables loading on a single factor also had a less good fit to the data, $\chi^2 (df = 20) = 385.365, p < .001, CFI = 0.77, RMSEA = 0.29, SRMR = 0.13, \Delta\chi^2 = 348.262, \Delta df = 3, p < .001$.

Table 4.3. Means, standard deviations, Cronbach's alpha, and correlations (Study 5).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Age	44.90	12.58							
2. Gender ^a	0.46	0.50	-.033						
3. Organizational tenure	8.87	7.51	.407***	.083					
4. Education ^b	3.77	1.00	-.061	.075	-.049				
5. Emotion regulation goals	5.84	1.07	.151*	-.086	.092	.052	(.77)		
6. Interpersonal justice	3.83	1.07	.129	.051	.087	.010	.111	(.91)	
7. Supervisor benevolence	3.58	1.21	.122	.053	-.049	.000	.129	.702***	(.97)

Notes.

N = 215.

^a. 0 = female, 1 = male.

^b. 1 = below high school to 5 = graduate school.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

H2 proposed that age has an indirect moderation effect on the relationship between interpersonal justice perceptions and supervisor benevolence through emotion regulation goals. To test this mediated moderation, we followed Wisse, Van Eijbergen, Rietzschel, and Scheibe's (2018) approach and conducted conditional process analyses using Hayes' (2017) PROCESS macro for SPSS (Model 14) (see Table 4.4). In the model, emotion regulation goals were predicted by age, and interacted with interpersonal justice to predict supervisor benevolence. Gender, education, and organizational tenure were included as control variables⁶. As predicted, age was positively associated with emotion regulation goals ($B = 0.016$, $SE = .006$, $p = .013$). Further, emotion regulation goals and interpersonal justice perceptions jointly predicted supervisor benevolence ($B = 0.099$, $SE = .050$, $p = .051$).

Table 4.4. Conditional process analyses predicting supervisor benevolence (Study 5).

Predictor	Emotion regulation goals	
	<i>B</i>	<i>SE</i>
Constant	-.791	.398
Gender	-.167	(.398)
Organizational tenure	-.012	(.011)
Education	.070	(.072)
Age	.016*	(.006)
	Supervisor benevolence	
	<i>B</i>	<i>SE</i>
Constant	3.489	.330
Gender	.057	.120
Organizational tenure	.001	.009
Education	-.009	.059
IJ	.790***	.056
Age	.002	.005
Emotion regulation goals	.051	.057
Interpersonal justice*Emotion regulation goals	.099*	.050
R^2	.506***	

Notes. $N = 215$.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

⁶ We conducted the model with and without control variables (Bernerth & Aguinis, 2016) and the pattern of results remained unchanged.

To illustrate the moderation effect, we plotted the effect of interpersonal justice on supervisor benevolence at 1 *SD* above and below the mean of emotion regulation goals (see Figure 4.4). Simple slopes analysis revealed that the effect of interpersonal justice on benevolence was stronger for employees with higher emotion regulation goals ($B = 0.964, p < .001$), than for employees with lower emotion regulation goals ($B = 0.736, p < .001$). Importantly, bias-corrected bootstrap confidence intervals support the indirect effect of age on the relationship between interpersonal justice and supervisor benevolence via emotion regulation goals ($index = .0016, 95\% CI = [.0001, .0037]$), which provides support for H2.

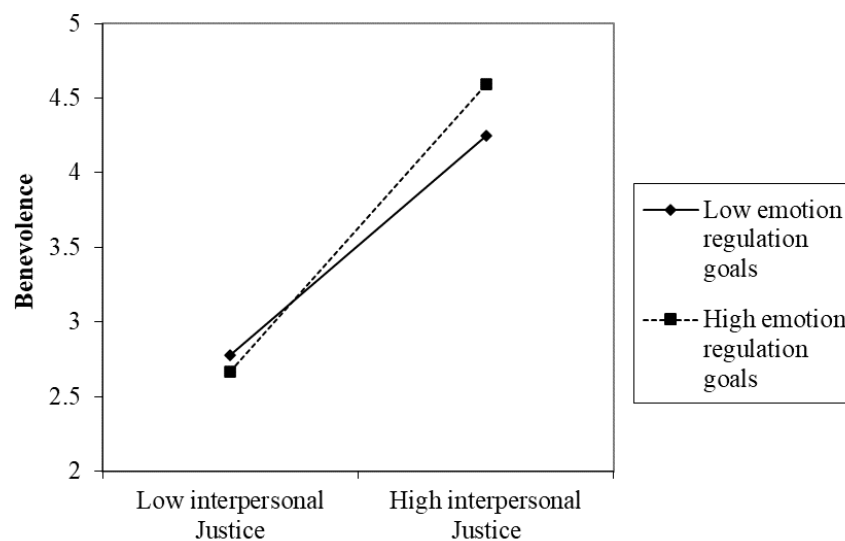


Figure 4.4. Interaction between interpersonal justice and emotion regulation goals on supervisor benevolence, plotted at ± 1 *SD* around the mean of emotion regulation goals (Study 5).

Supplemental analyses

We conducted four additional mediated moderation analyses to substantiate H2. First, we conducted the same mediated moderation model but predicting the other trustworthiness dimensions as the criterion, instead of benevolence. The model predicting ability was non-significant ($index = .0005, 95\% CI = [-.0027, .0013]$), as was the model predicting integrity ($index = .0013, 95\% CI = [-.0003, .0036]$). Second, we conducted the same mediated moderation model but with other social goals as mediators, instead of emotion regulation goals. The model that included generativity goals was non-significant ($index = -.0001, 95\% CI = [-.0011, .0005]$), as was the model that included knowledge acquisition goals ($index = -.0006, 95\% CI = [-.0027, .0011]$).

DISCUSSION

In this research, we aimed to better understand how employee age might influence the relationship between interpersonal justice perceptions and trust in supervisor. We found that the relationship between interpersonal justice perceptions and trust in supervisor is stronger for older versus younger workers, and that emotion regulation goals are responsible for the moderating effect of age on the relationship between interpersonal justice and perceived supervisor benevolence. The findings are aligned with SST, which proposes that high-quality relationships are especially important for older people because they prioritize emotion regulation goals (Carstensen et al., 1999).

Several factors give us confidence in our findings. First, the findings are aligned across different study designs: a scenario-based experiment (Study 4) and a two-wave survey (Study 5). Second, we followed five methodological recommendations for research on aging and work (Bohmann et al., 2018): 1) we used an experimental design to establish causality (Study 4), 2) we investigated a psychological mechanism for age effects (Study 5), 3) we recruited similar numbers of participants from different age groups (both studies), 4) we operationalize age as a continuous variable instead of comparing artificially created age groups (both studies), and 5) we controlled for age-related constructs (both studies).

Theoretical implications

First, despite its ubiquity and salience in the workplace, employee age has received little attention from organizational justice and trust scholars. Our research advances scholarship in both organizational justice and trust by building on SST tenets relating greater age to increased importance of high-quality social relationships (Carstensen et al., 1999). Specifically, we propose why interpersonal justice matters more to trust in supervisor – and to perceptions of supervisor benevolence, in particular – for older versus younger employees. Our research thus suggests that the psychological needs fulfilled by a fair workplace can differ significantly depending on employee age.

Second, we build on the few studies that investigated age as a moderator of reactions to justice. Whereas previous studies found that employee age can *attenuate* relationships between justice perceptions and negative work outcomes (Brienza & Bobocel, 2017; Tenhiälä et al., 2013; Yaldiz et al., 2018), our research shows that employee age can also *strengthen* relationships between justice perceptions and a positive work outcome. Thus, our research provides further benefits to employees and organizations of interpersonally fair supervisors

(e.g., Colquitt et al., 2001), as these become even more valuable with an older workforce.

Third, we explore *why* interpersonal justice is more important for older than younger workers by investigating a theory-driven age-related psychological mechanism (i.e., emotion regulation goals), as one reason why older individuals are more driven to pursue high-quality relationships (Carstensen et al., 1999). Our research suggests that lifespan development processes – such as prioritizing emotion regulation goals as individuals age – might be responsible for differences in employee-supervisor relationships for older versus younger employees. The results are consistent with SST tenets and further confirm its relevance to the work context.

Practical implications

Especially when it comes to managing older employees, managers should not only focus on outcomes and procedures, but also on showing respect and concern. There are straightforward, practical steps that organizations can take to increase the interpersonal justice enacted by supervisors and improve the quality of their relationships with employees. Whereas distributive and procedural justice, and to a lesser extent informational justice, are more structural and likely to be constrained by the context, such restrictions do not apply to interpersonal justice, which is almost wholly at the discretion of the supervisor.

Promoting interpersonal justice as a key leadership skill makes even more sense given research showing that interpersonal justice behaviors are not only beneficial to employees, but also to the enactors (i.e., managers) themselves (Johnson, Lanaj, & Barnes, 2014). Organizations can provide managers with interactional justice training (Skarlicki & Latham, 2005) and create opportunities for positive interactions between employees and managers, such as company social events, joint training moments, and adequately conducted one-on-one feedback and development meetings.

Organizations can also provide training to managers regarding age stereotypes and prejudice (Burmeister et al., 2021; Ng & Feldman, 2012) and implement inclusive HR practices for individuals of all ages, thus fostering mutual respect for and among employees of all ages, creating an age-diversity climate (Boehm, Kunze, & Bruch, 2014).

Limitations and directions for future research

Despite the contributions of our research, it also has limitations. Although important to establish causality, the design of Study 4, specifically the context of the vignette used – a promotion decision –, might have influenced the results. Future research can manipulate

interpersonal justice in different situations, such as performance evaluation, salary increase, or participation on an important work project.

In Study 5, all variables were assessed by self-report given that the phenomena being measured (justice perceptions and benevolence perceptions) constituted internal states that would be difficult for an alternative source to assess (Spector, 2019). Although we temporally separated the measurement of our variables, concerns regarding common method bias might still be raised (Podsakoff et al., 2012). However, we believe that when taken together, our methodologies are complementary in terms of internal and external validity, with each methodology offsetting limitations of the other (Cook & Campbell, 1979).

Future research investigating the relationship between interpersonal justice perceptions and trust in supervisor should not only consider employee age, but also consider supervisor age. Older workers might have different expectations for younger supervisors than do younger workers, which can influence how older workers evaluate the younger supervisor's behavior (Collins, Hair, & Rocco, 2009). In fact, research has shown that older employees generally prefer older supervisors (Tonks, Dickenson, & Nelson, 2009) and that they believe that older supervisors are fairer than younger ones (Armstrong-Stassen & Lee, 2009).

In addition, future research should consider the use of true longitudinal designs to measure age-related changes in work motivation within individuals (Bohlmann et al., 2018), which would require assessing the same sample at multiple different ages. Only with such designs can aging and work research truly investigate if such differences occur within individuals across different times and contexts, and therefore, depend on adult development psychological processes.

CONCLUSION

This research integrates lifespan developmental psychology with justice and trust literatures to propose that the relationship between perceptions of interpersonal justice and trust in the supervisor is especially important to older employees. By demonstrating that older workers react differently than younger workers to interpersonal (in)justice in the workplace, we contribute to aging and justice research, and to the ongoing conversation on how to better manage employees during a time of rapid workforce aging.

CHAPTER 5.

HARNESSING THE POTENTIAL OF OLDER WORKERS THROUGH RELATIONSHIPS AT WORK: SOCIAL SUPPORT, FEEDBACK, AND PERFORMANCE⁷

⁷ This chapter is under review (second round of Revise and Resubmit) as:

Marques, T., Ramos, S., Patient, D., & Bobocel, R. *Harnessing the potential of older workers through relationships at work: social support, feedback, and performance.*

ABSTRACT

With the aging of the global workforce, it is crucial to deepen our understanding of how to keep older workers healthy, motivated, and productive. In this research, we integrate job design with socioemotional selectivity theory and self-determination theory, to propose that social job characteristics affect employee performance differently for older and younger workers. Specifically, in a three-wave survey ($N = 454$), we tested employee age as a moderator of the relationships between receiving and giving social support and feedback at work, and performance. The results showed that, in general, both receiving and giving social support and feedback are associated more strongly with the performance of older than younger workers. The findings provide important theoretical implications for the study of aging and work; they also offer practical applications for creating workplaces in which older workers can reap the benefits of social relationships to remain productive.

INTRODUCTION

As a result of population aging, workers aged 55 or more are becoming the fastest growing workforce segment (United Nations, 2019; U.S. Bureau of Labor Statistics, 2013). Since the potential workforce is also expected to shrink by 10 percent between 2020 and 2050 (OECD, 2005), human resource managers are faced with the challenges of ensuring that older workers remain healthy, motivated, and productive. Job redesign has been proposed as a means to better manage the aging workforce and discourage retirement-related turnover (Dychtwald, Erickson, & Morison, 2006). However, redesigning jobs to retain and motivate older workers requires an understanding of how their needs and expectations differ from those of their younger counterparts.

Research on job design applied to the aging workforce has focused mostly on task-related characteristics of the job, such as skill variety or autonomy (Hackman & Oldham, 1976). For example, older workers respond to increased autonomy with higher levels of self-efficacy and performance but lower levels of job satisfaction and affective commitment than younger workers (Ng & Feldman, 2015). Less attention has been paid to how older workers are affected by *social job characteristics*, such as interdependence, feedback, or social support (Morgeson & Humphrey, 2006). This is especially surprising given findings from (a) self-determination theory (SDT; Deci & Ryan, 2000), which shows that close social relationships in the workplace are an important driver of motivation and performance, and (b) socioemotional selectivity theory (SST; Carstensen, et al., 1999), which shows the importance of close social relationships for older individuals in particular.

We use SST and SDT as theoretical frameworks to propose that two social job characteristics – social support and feedback – are differently associated with the performance of older versus younger workers (see Figure 5.1). While social support refers to the assistance and advice individuals receive on the job (Karasek et al., 1998), feedback from others refers to information that individuals receive regarding their performance at work (Morgeson & Humphrey, 2006). We focus on social support and feedback because other social characteristics such as task interdependence and interaction outside the organization have been recently investigated using an aging lens (Fazi, Zaniboni, Estreder, Truxillo, & Fraccaroli, 2019).

In addition, unlike prior research investigating age differences resulting from the “receiving side” of social support and feedback (Bouville et al., 2018; Wang et al., 2015), we investigate the effects of both *receiving* and *giving* social support and feedback on both in-

role and extra-role performance. In-role performance refers to behavior directed toward formal tasks, duties, and responsibilities (Williams & Anderson, 1991), whereas extra-role performance refers to activities that, although essential for organizational effectiveness, are discretionary and not recognized by the reward system (Organ, 1988). Whereas in-role and extra-role performance can have different antecedents (e.g., MacKenzie, Podsakoff, & Ahearne, 1998), prior research reveals that both are positively associated with feeling socially connected in the workplace (Lee, Mitchell, Sablinski, Burton, & Holtom, 2004); thus, we focus on both types of performance.

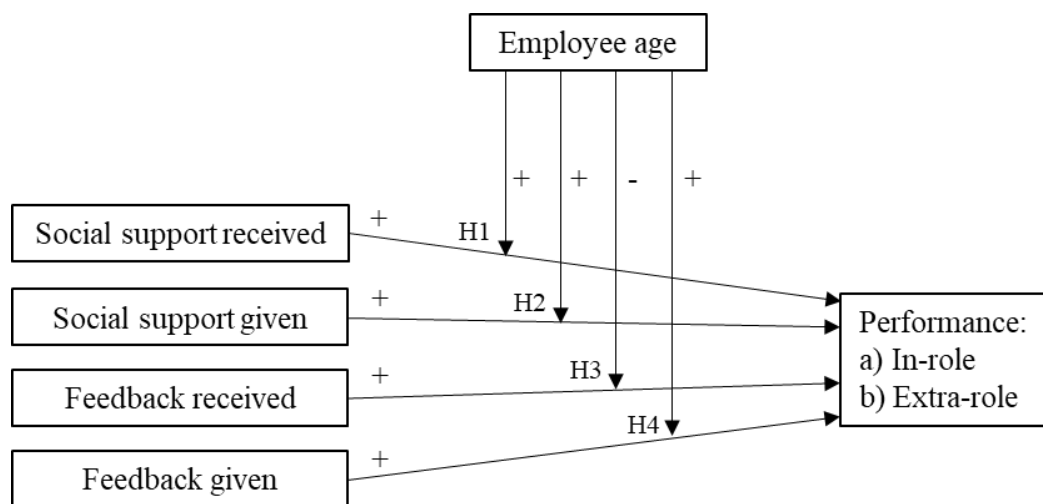


Figure 5.1. Summary of the proposed model (Study 6).

We aim to make three contributions to the literature. First, we investigate effects of social job characteristics, which have received relatively little research attention, but have become more important than ever in contemporary work organizations (Oldham & Hackman, 2010). Our research advances knowledge on the relationships between social job characteristics and work outcomes, and how these relationships vary as a function of individual differences.

Second, while previous research on social job characteristics has tended to focus on well-being outcomes (Humphrey et al., 2007), we focus on an important behavioral outcome: performance. Although research has shown a positive relationship between age and extra-role performance (e.g., Ng & Feldman, 2008), mixed and complex results on the relationship between age and in-role performance (e.g., Ng & Feldman, 2008; Sturman, 2003) suggest that different factors may influence the in-role performance of older versus younger workers.

Third, we investigate the effects of social job characteristics in light of workforce aging.

By empirically investigating the moderating role of employee age in the relationships between social support and feedback and performance, we build upon the conceptual work by Truxillo et al. (2012) and Cadiz, Rineer, and Truxillo (2019). Our work informs organizations about the potential benefits of social interactions in the workplace for boosting performance of an increasingly older and age-diverse workforce. Because we sample employees of all ages, our work provides insights into the management of both older and younger workers.

THEORY AND HYPOTHESES

The importance of relational needs: self-determination theory and socioemotional selectivity theory

Self-determination theory (Deci & Ryan, 2000) postulates that individuals are intrinsically motivated by the satisfaction of the need for relatedness – establishing a sense of belongingness and connectedness with others – along with the needs for autonomy and competence. Workplaces that promote satisfaction of these basic psychological needs are proposed to enhance employees' intrinsic motivation which should in turn lead to effective performance and organizational citizenship behaviors (Gagné & Deci, 2005). Indeed, Baard, Deci, and Ryan (2004) found significant relationships between need satisfaction and employee performance evaluations. Although the three basic needs are proposed to be universal (Deci & Ryan, 2000), research comparing the salience of the needs across the lifespan has shown that relatedness is the most salient need for older adults but not for younger adults (Hahn & Oishi, 2006), which is in line with tenets from socioemotional selectivity theory (SST; Carstensen et al., 1999).

SST, a lifespan theory of human development, focuses on how awareness of the passage of time can influence socioemotional goals. When time is perceived as expansive (i.e., when people are young), the motivation for having contact with others is more instrumental and focused on gaining knowledge to enhance long-term career opportunities. When time is perceived as limited (i.e., when people are old), the focus shifts from the future to the present, and the motivation for social relationships shifts to short-term goals, such as social connectedness and emotion regulation (Carstensen et al., 1999). As a result, younger people tend to pursue more diverse and numerous social relationships from which future career benefits can be derived, while older people tend to pursue fewer and closer, high-quality social relationships that contribute to their emotional well-being (Carstensen, 1995).

Job design and employee age

Job design, defined as the “study, creation, and modification of the composition, content, structure, and environment within which jobs and roles are enacted” (Morgeson & Humphrey, 2008, p. 47), is one of the most frequently researched human resource management practices (Foss, Minbaeva, Pedersen, & Reinholt, 2009). Among the most studied theories of job design, the job characteristics model (JCM; Hackman & Oldham, 1976) focuses on five job characteristics – autonomy, skill variety, task identity, task significance, and feedback from the job – which affect behavioral outcomes such as performance, turnover, and absenteeism, and psychological outcomes such as job satisfaction and work motivation (Fried & Ferris, 1987).

More recent conceptualizations of job design go beyond these task-related characteristics, to include knowledge, physical, and social job characteristics, with the latter including social support and feedback from others (Morgeson & Humphrey, 2006). Research on social support has shown its benefits in reducing effects of job demands on stress (e.g., Viswesvaran, Sanchez, & Fisher, 1999), while providing mixed results of its effects on performance (e.g., AbuAlRub, 2004; Beehr, Jex, Stacy, & Murray, 2000). Research on feedback from others has focused primarily on its positive effects on job satisfaction (Humphrey et al., 2007), while meta-analytical evidence has shown both positive and negative effects on performance (Kluger & DeNisi, 1996).

Research has recently focused on age differences in the relationships between job characteristics and employee attitudes and behaviors. For instance, the positive relationships of job autonomy with job satisfaction, organizational commitment, and work engagement are stronger for younger versus older workers (Ng & Feldman, 2015). The positive effects on job attraction of task variety, task significance, and feedback from the job are also stronger for younger versus older workers (Zacher, Dirkers, Korek, & Hughes, 2017).

In a conceptual paper, Truxillo et al. (2012) used SST to propose how different job characteristics might influence workers’ satisfaction, engagement, and performance differently depending on their age, reasoning that older workers would prefer job characteristics that contribute to their well-being at work, while younger workers would prefer job characteristics that contribute to career advancement. Several empirical studies have since tested age as a moderator of the relationships between task and knowledge characteristics of the job and work outcomes (e.g., Ng & Feldman, 2015; Zacher et al., 2017). Far fewer studies have examined how employee reactions to social job characteristics – including feedback and social support – might depend on age (e.g., Bouville et al., 2018;

Wang et al., 2015), which is the focus of our research.

Social support, performance, and employee age

Because older individuals perceive their futures as constrained in terms of time, they attach greater importance to meaningful social relationships from which they derive short-term social connectedness and emotional intimacy (Carstensen et al., 1999). Therefore, receiving assistance and advice from others in the workplace, in the form of social support, should be especially important to the motivation of older workers. This increased motivation following the satisfaction of relational needs should lead to higher in-role and extra-role performance (Gagné & Deci, 2005).

Related research has shown that relationship fit with coworkers contributes more to the job satisfaction of older than younger workers (Robson & Hansson, 2007) and that social relationships at work contribute to the successful adaptation of workers as they grow older and advance in their careers (Westerman & Yamamura, 2007). On the other hand, a lack of social support is related to emotional exhaustion for older but not younger workers (De Lange et al., 2006), and has been identified as a barrier to older workers' participation in the workforce (Fraser, McKenna, Turpin, Allen, & Liddle, 2009). As receiving social support contributes specifically to the satisfaction of relational needs that are important drivers of older individuals' motivation (Carstensen et al., 1999; Gagné & Deci, 2005), we propose that receiving social support is more strongly associated with older versus younger workers' in-role and extra-role performance.

H1: Age moderates the positive relationships between receiving social support and a) in-role and b) extra-role performance, such that the relationships are stronger for older than younger workers.

Although research on social support has tended to focus on the benefits of *receiving* social support, recent studies have also proposed benefits of *giving* social support (Inagaki & Orehek, 2017). We argue that giving social support is more beneficial to older versus younger workers because it increases their motivation and consequently, their in-role and extra-role performance.

Giving assistance and advice to others in the workplace should be especially motivating to older workers for three reasons. First, older workers have greater generativity needs (e.g., Kooij & Van De Voorde, 2011), defined as behaviors pertaining to caring for and guiding

others, and helping society and future generations (McAdams et al., 1993). Generativity needs are positively associated with employee age and can be satisfied by giving social support to others. Second, older individuals are especially motivated by maintaining meaningful social relationships (Carstensen et al., 1999; Hahn & Oishi, 2006) and providing social support to others is a way to satisfy such needs, as it increases feelings of social connection with the recipient of support (Inagaki & Orehek, 2017). Finally, older workers should also be more skilled than younger workers to provide social support: they are generally less neurotic and more agreeable (Roberts et al., 2006), and engage more in strategies that enhance positive social experiences (Luong et al., 2011).

Because opportunities to give social support to others should increase older workers' motivation by the satisfaction of generativity and relational needs (Carstensen et al., 1999; Kooij & Van De Voorde, 2011), and as this increased motivation should lead to effective performance and citizenship behaviors (Gagné & Deci, 2005), we propose that giving feedback should contribute more to the in-role and extra-role performance of older versus younger workers.

H2: Age moderates the positive relationships between giving social support and a) in-role and b) extra-role performance, such that the relationships are stronger for older than younger workers.

Feedback, performance, and employee age

We suggest that receiving versus giving feedback will differently affect the performance of older versus younger workers. On the one hand, *receiving* feedback from others should more strongly contribute to the in-role and extra-role performance of younger workers. Specifically, receiving feedback provides opportunities to learn how to perform the job more effectively through the transfer of implicit and explicit knowledge (Berman, Down, & Hill, 2002) and to negotiate and define roles with people who hold expectations about the performance (Graen, 1976).

Because younger workers perceive time as more expansive, they seek social interactions with the goal of acquiring knowledge to achieve long-term growth (Carstensen et al., 1999). Related research has found that younger workers are more motivated than older workers when they receive knowledge (Burmeister, Wang, & Hirschi, 2020), and they value the quality of feedback more strongly than older workers (Wang et al., 2015).

Receiving feedback should be less valued by older employees who might have already

achieved higher levels of job skills due to extended work experience and therefore might prefer to be more autonomous in carrying out their work (Truxillo et al., 2012), have lower growth needs (Kooij et al., 2011), and value social interactions more for their relational value (Carstensen et al., 1999).

Finally, receiving feedback should signal to employees that the organization is investing in their long-term professional advancement, which should especially motivate younger workers to reciprocate with increased motivation to fulfill work responsibilities and to help the organization, in order to nurture a long-term relationship of mutual investments (Blau, 1964).

H3: Age moderates the positive relationships between receiving feedback and a) in-role and b) extra-role performance, such that the relationships are stronger for younger than older workers.

On the other hand, *giving* feedback to others should contribute more strongly to the performance of older workers. When giving feedback to others, either during formal feedback practices (e.g., performance appraisal) or through informal feedback moments, employees engage in social interactions. Such moments should strengthen the social relationships that are particularly important to older individuals' motivation (Carstensen et al., 1999; Hahn & Oishi, 2006).

Also, providing feedback that can help others improve their performance is a generative behavior (McAdams et al., 1993). Such behaviors are more common among older workers (e.g., Kooij & Van De Voorde, 2011), who feel a greater need to help future generations. Research on knowledge sharing has also found that older workers are more motivated than younger workers when they provide knowledge (Burmeister et al., 2020). Finally, older workers should also be more skilled than younger workers in providing feedback to others, because of their accumulated experience, emotional stability (Roberts et al., 2006), and better conflict management skills (Yeung, Fung, & Chan, 2015).

As opportunities to provide feedback contribute to the satisfaction of generativity and relational needs that are particularly important to older workers' motivation (Carstensen et al., 1999; Kooij & Van De Voorde, 2011), and given that higher motivation should lead to effective performance and citizenship behaviors (Gagné & Deci, 2005), we propose that giving feedback should contribute more to the in-role and extra-role performance of older versus younger workers. Therefore, we hypothesize:

H4: Age moderates the positive relationships between giving feedback and a) in-role and b) extra-role performance, such that the relationships are stronger for older than younger workers.

STUDY 6

Method

Procedure

Data were collected as part of a larger project examining age differences in work attitudes and behaviors, using a time-lagged design with three online surveys, spaced one week apart. We chose a one-week time lag because of recent methodological recommendations to use “shortitudinal” designs (Dormann & Griffin, 2015). We temporally separated the measurement of moderator (age; wave 1), predictors (receiving and giving social support and feedback; wave 2), and outcome variables (in-role and extra-role performance; wave 3) to alleviate common method bias (Podsakoff et al., 2012).

Participants

Participants were recruited through Amazon Mechanical Turk (MTurk), a crowdsourcing platform (for details regarding panel quality, see Buhrmester et al., 2016). Our sampling unit consists of individuals living in the US and that were currently employed. We followed best practices for online panels (Aguinis, Villamor, & Ramani, 2021): we recruited only participants with a 99% approval rate on prior MTurk tasks, and we excluded participants who failed attention checks in the surveys. Participants received US \$0.50, \$0.75, and \$2.50 for the three surveys, respectively.

In the first wave, we recruited 605 participants. To ensure a similar number in all age groups (following recommendations by Bohlmann et al., 2018), we used Cloudresearch panels (Litman, Robinson, & Abberbock, 2017), which allowed us to recruit a convenience age-stratified sample of 201 participants aged 18-34, 202 participants aged 35-49, and 202 participants aged 50 or over.

From 605 initial responses, three were deleted for either failing the attention check or responding the same for all the measures. In the second wave, from the 602 wave 1 participants, 520 completed the survey (an 86% response rate). Of those, four were deleted because they failed the attention check. In the third wave, from the 516 wave 2 participants, 458 completed the survey (an 89% response rate). Of those, four were deleted (two

participants failed the attention check and one completed the survey twice), leaving a final sample of 454 participants.

The mean age was 42.62 ($SD = 12.86$) and 43.8% were male. On average, participants had 21 years of work experience and worked 38 hours per week. Participants' occupations were diverse, with the most represented occupations including office workers (14.3%), engineers and high-tech professionals (11.5%), educators (8.1%), manufacturing and sales workers (7.7%), and finance professionals (7.0%). In terms of education, 19.2% had up to high school, 16.7% had community college, 44.5% had university, and 19.6% had graduate school.

Measures

All items were answered on a Likert scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*) except where noted.

Social support received

We used the “positive job-related social support received” four items from Bowling, Beehr, and Swader (2005). We focused only on positive support because, according to SST, older people are motivated by positive and high-quality social relationships (Carstensen et al., 1999). Therefore, we considered that this specific type of social support would impact performance more strongly for older versus younger employees. Items included “My coworkers talk to me about how this organization is a good place to work” ($\alpha = .94$).

Social support given

We used the “positive job-related social support given” four items from Bowling et al. (2005), including “I talk to my coworkers about how this organization is a good place to work” ($\alpha = .96$).

Feedback received

We used three items from Morgeson and Humphrey (2006), including “I receive a great deal of information from my manager and coworkers about my job performance” ($\alpha = .92$).

Feedback given

We adapted the three items above for feedback received by replacing “receive” with “provide” and “my job performance” with “their job performance.” We also replaced “my

coworkers and manager” with “my coworkers”, as we were concerned that it might be less common to give feedback to managers than coworkers. Items included “I provide a great deal of information to my coworkers about their job performance” ($\alpha = .97$).

In-role performance

We used seven items from Williams and Anderson (1991). The items were preceded by “How frequently do you intend to engage in the following behaviors at work, in the next two weeks” and included “Perform tasks that are expected of me” ($\alpha = .78$). The items were presented on a Likert-type scale from 1 (*Never*) to 7 (*Very often*).

Extra-role performance

We used Lee and Allen’s (2002) eight-item measure of organizational citizenship behaviors towards the organization. The items were preceded by “How frequently do you intend to engage in the following behaviors at work, in the next two weeks” and included “Attend functions that are not required but that help the organizational image” ($\alpha = .92$). The items were presented on a Likert-type scale from 1 (*Never*) to 7 (*Very often*).

Age

Age was measured as chronological age (number of years since birth).

Control variables

Data were collected on gender, organizational tenure, education, and income for use as covariates in the regression analyses. We controlled for the effect of gender given past research indicating that women are higher in interdependent self-construal while men are higher in independent self-construal (Cross & Madson, 1997), which could result in differences between women and men in the levels of feedback and social support provided, and in the reactions to feedback and social support received. We also controlled for the effects of organizational tenure, education, and income, as they are typically correlated with age and may serve as alternative explanations.

Analytical strategy

We assessed the reliability of measures and conducted confirmatory factor analyses (CFA). To test the hypothesized model, we first computed each variable as the average of its items (composite score). After, we standardized predictors and control variables, and conducted

hierarchical regression analyses. We regressed in-role and extra-role performance on the control variables (gender, organizational tenure, education, and income), the focal predictors (social support received and given, feedback received and given, and age), and the interactions between age and the focal predictors (with predictors standardized before computing interaction terms)^{8,9}. We followed up significant interactions with Johnson-Neyman plots using CAHOST (Carden, Holtzman, & Strube, 2017).

Results

Measurement assessment

Table 5.1 presents means, standard deviations, Cronbach's alphas, and correlations among variables. To ensure discriminant validity, we conducted CFA. We first estimated a 6-factor model (i.e., social support received, social support given, feedback received, feedback given, in-role performance and extra-role performance), which provided good fit to the data, $\chi^2 (df = 335) = 915.723$, $p < .001$, CFI = 0.95, RMSEA = 0.06, SRMR = 0.05. All the scale items loaded significantly onto the expected latent construct (standardized factor loadings ranged from .35 to .97).

Given the sizable correlation between social support received and given, and between feedback received and given, we also estimated a four-factor model (i.e., social support received and given, feedback received and given, in-role performance, and extra-role performance), which fit the data less well, $\chi^2 (df = 344) = 1940.341$, $p < .001$, CFI = 0.87, RMSEA = 0.10, SRMR = 0.07, $\Delta\chi^2 = 1024.618$, $\Delta df = 9$, $p < .001$.

Additionally, given the sizable correlation between social support received and feedback received, and between social support given and feedback given, we estimated another four-factor model (i.e., social support and feedback received, social support and feedback given, in-role performance, and extra-role performance), which also fit the data less well, $\chi^2 (df = 344) = 2964.474$, $p < .001$, CFI = 0.78, RMSEA = 0.13, SRMR = 0.08, $\Delta\chi^2 = 2048.751$, $\Delta df = 9$, $p < .001$.

Finally, we estimated a one-factor model, which also fit the data less well, $\chi^2 (df = 350) = 5840.134$, $p < .001$, CFI = 0.54, RMSEA = 0.19, SRMR = 0.15, $\Delta\chi^2 = 3899.793$, $\Delta df = 6$, $p < .001$.

⁸ We conducted the regressions with and without the control variables following best practice recommendations (Bernierth & Aguinis, 2016). The pattern of results remained unchanged.

⁹ Given the sizable correlation between age and tenure, we checked for multicollinearity in all models. Tests indicated that multicollinearity was not a concern.

Table 5.1. Means, standard deviations, Cronbach's alpha, and correlations (Study 6).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Age	42.62	12.86											
2. Gender ^a	-	-	.16**										
3. Education	-	-	.01	-.06									
4. Income	-	-	.02	-.19**	.33**								
5. Organizational tenure	7.74	7.60	.46**	.10*	.06	.23**							
6. Social support received	4.64	1.53	-.01	.03	.03	.13**	.11*	(.94)					
7. Social support given	4.71	1.65	.05	.06	.05	.13**	.12**	.85**	(.96)				
8. Feedback received	4.84	1.53	-.04	.05	-.06	.02	.10*	.60**	.57**	(.92)			
9. Feedback given	4.27	1.80	.03	-.02	-.04	.13**	.16**	.53**	.61**	.67**	(.97)		
10. Extra-role performance	4.91	1.28	.16**	.16**	-.03	.14**	.19**	.54**	.60**	.40**	.40**	(.92)	
11. In-role performance	6.49	0.66	.18**	.09*	-.03	-.02	.14**	.06	.09	.12*	.01	.22**	(.78)

Notes. *N* = 454. All correlations are Pearson's correlations except the correlations with gender (Spearman's rho).

^a. 0 = female, 1 = male.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Hypothesis tests

H1 proposed that age moderates the positive relationships between social support received and a) in-role and b) extra-role performance, such that the relationships are stronger for older than younger workers. The interaction between age and social support received predicting in-role performance was not significant ($B = 0.043$, $SE = .033$, $t = 1.331$, $p = .18$) (see Table 5.2). Thus, H1a was not supported. The interaction between age and social support received predicting extra-role performance was significant ($B = 0.131$, $SE = .052$, $t = 2.521$, $p = .012$). As depicted in Figure 5.2, the relationship between social support received and extra-role performance is significant at all ages and becomes stronger with increasing age, providing support for H1b.

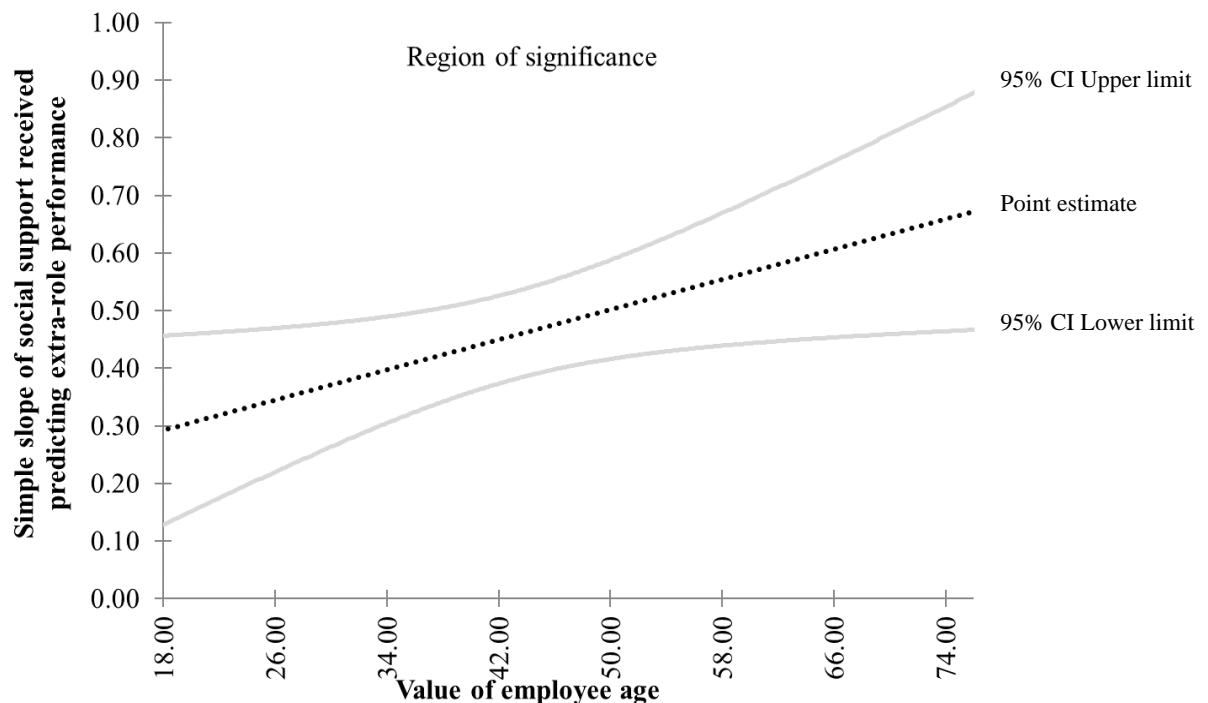


Figure 5.2. Johnson–Neyman regions of significance for the interaction effect of social support received and age on extra-role performance.

Table 5.2. Moderated hierarchical regression analyses of social support received and age predicting in-role and extra-role performance.

Predictor	In-role performance		Extra-role performance	
	Step 1 <i>B (SE)</i>	Step 2 <i>B (SE)</i>	Step 1 <i>B (SE)</i>	Step 2 <i>B (SE)</i>
Constant	6.490*** (.030)	6.491*** (.030)	4.909*** (.049)	4.910*** (.049)
Gender ^a	.033 (.031)	.034 (.031)	.179*** (.050)	.182*** (.050)
Tenure	.049 (.036)	.039 (.036)	.057 (.057)	.026 (.058)
Education	-.014 (.032)	-.017 (.032)	-.093 (.052)	-.100* (.052)
Income	-.024 (.034)	-.020 (.034)	.131** (.055)	.142** (.055)
Age	.092** (.035)	.094** (.035)	.160** (.056)	.167** (.056)
Social Support Received	.038 (.031)	.040 (.031)	.667*** (.050)	.673*** (.049)
Age*Social Support Received		.043 (.033)		.131* (.052)
<i>R</i> ²	.045**	.049**	.346***	.355***
ΔR^2		.004		.009**

Notes. *N* = 454.

^a. 0 = female, 1 = male.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

H2 proposed that age moderates the positive relationships between social support given and a) in-role and b) extra-role performance, such that the relationships are stronger for older than younger workers. The interaction between age and social support given predicting in-role performance was significant ($B = .087$, $SE = .033$, $t = 2.685$, $p = .008$) (see Table 5.3). As depicted in Figure 5.3, the relationship between social support given and in-role performance becomes significant only from the age of 43 and the strength of the relationship increases with increasing age, providing support for H2a.

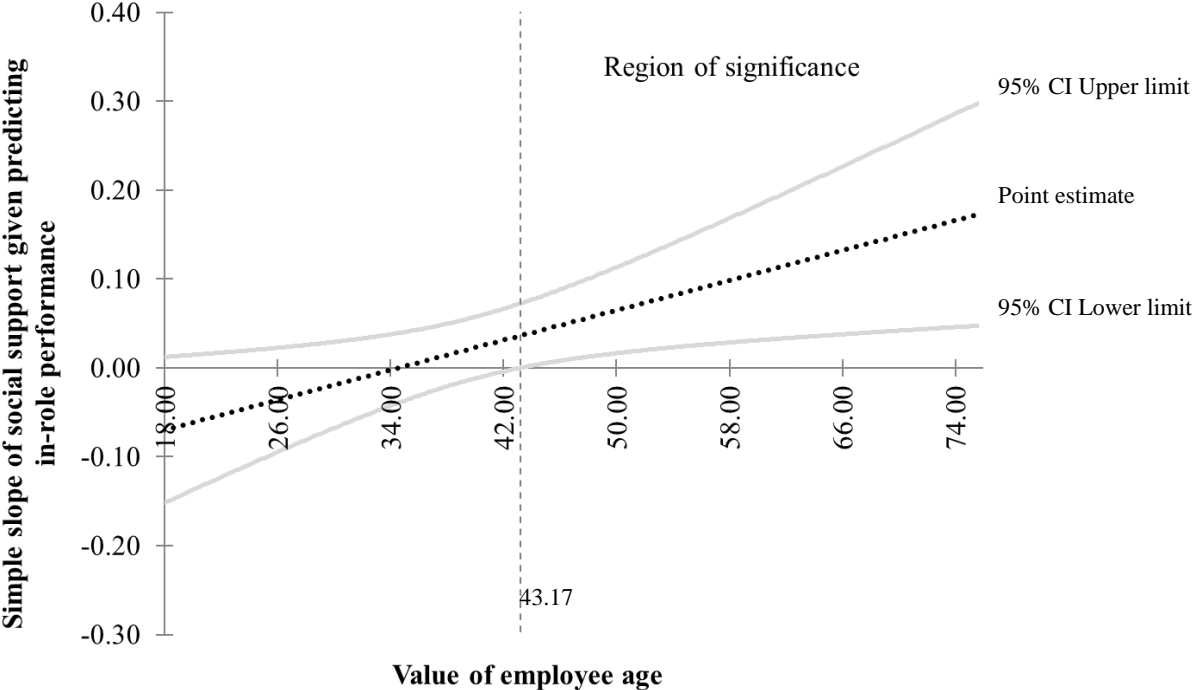


Figure 5.3. Johnson–Neyman regions of significance for the interaction effect of social support given and age on in-role performance.

Table 5.3. Moderated hierarchical regression analyses of social support given and age predicting in-role and extra-role performance.

Predictor	In-role performance		Extra-role performance	
	Step 1 <i>B (SE)</i>	Step 2 <i>B (SE)</i>	Step 1 <i>B (SE)</i>	Step 2 <i>B (SE)</i>
Constant	6.490*** (.030)	6.487*** (.030)	4.909*** (.047)	4.901*** (.046)
Gender ^a	.031 (.031)	.034 (.031)	.154** (.048)	.159** (.048)
Tenure	.048 (.036)	.032 (.036)	.054 (.055)	.021 (.055)
Education	-.015 (.032)	-.020 (.032)	-.105* (.050)	-.115* (.049)
Income	-.025 (.034)	-.021 (.034)	.127** (.052)	.134** (.052)
Age	.090* (.035)	.093** (.034)	.127** (.053)	.133* (.053)
Social Support Given	.050 (.031)	.055 (.031)	.738*** (.047)	.749*** (.047)
Age*Social Support Given		.087** (.033)		.178*** (.050)
<i>R</i> ²	.047**	.062***	.405***	.422***
ΔR^2		.015**		.017***

Notes. *N* = 454.

^a. 0 = female, 1 = male.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Furthermore, the interaction between age and social support given predicting extra-role performance was significant ($B = .178$, $SE = .050$, $t = 3.582$, $p < .001$). As depicted in Figure 5.4, the relationship between social support given and extra-role performance is significant at all ages and becomes stronger with increasing age, providing support for H2b.

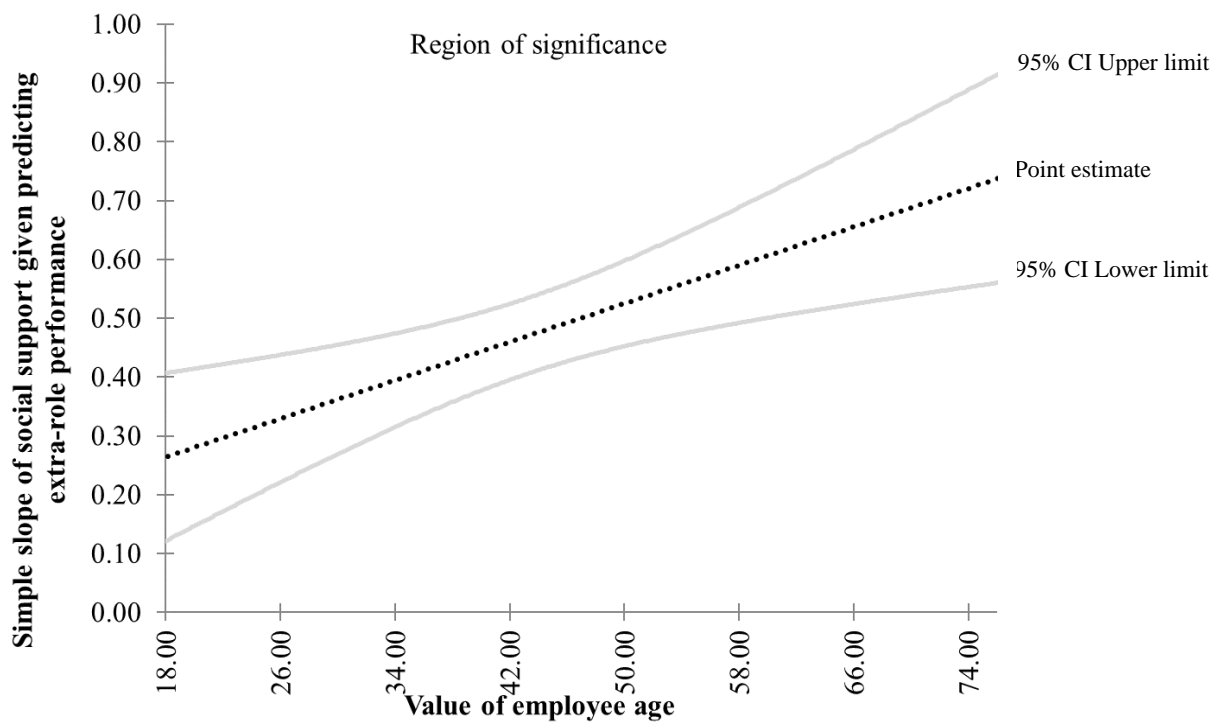


Figure 5.4. Johnson–Neyman regions of significance for the interaction effect of social support given and age on extra-role performance.

H3 proposed that age moderates the positive relationships between feedback received and a) in-role and b) extra-role performance, such that the relationships are stronger for younger than older workers. The interaction between age and feedback received predicting in-role performance was significant ($B = .065$, $SE = .031$, $t = 2.074$, $p = .039$) (see Table 5.4).

However, contrary to our predictions, Figure 5.5 shows that the relationship between feedback received and in-role performance becomes significant only from the age of 40 and the strength of the relationship increases with increasing age. Furthermore, the interaction between age and feedback received predicting extra-role performance was not significant ($B = .081$, $SE = .055$, $t = 1.467$, $p = .14$). Thus, neither H3a nor H3b were supported.

Table 5.4. Moderated hierarchical regression analyses of feedback received and age predicting in-role and extra-role performance.

Predictor	In-role performance		Extra-role performance	
	Step 1 <i>B (SE)</i>	Step 2 <i>B (SE)</i>	Step 1 <i>B (SE)</i>	Step 2 <i>B (SE)</i>
Constant	6.490*** (.030)	6.493*** (.030)	4.909*** (.053)	4.912*** (.053)
Gender ^a	.032 (.031)	.031 (.031)	.186** (.055)	.185** (.055)
Tenure	.042 (.036)	.029 (.036)	.058 (.062)	.041 (.063)
Education	-.009 (.032)	-.014 (.032)	-.063 (.057)	-.070 (.057)
Income	-.021 (.034)	-.014 (.034)	.199** (.059)	.207** (.059)
Age	.098** (.035)	.103** (.035)	.170** (.061)	.177** (.061)
Feedback Received	.078* (.031)	.074* (.030)	.496*** (.054)	.491*** (.054)
Age*Feedback Received		.065* (.031)		.081 (.055)
<i>R</i> ²	.055***	.064***	.229***	.232***
ΔR^2		.009*		.004

Notes. *N* = 454.

^a. 0 = female, 1 = male.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

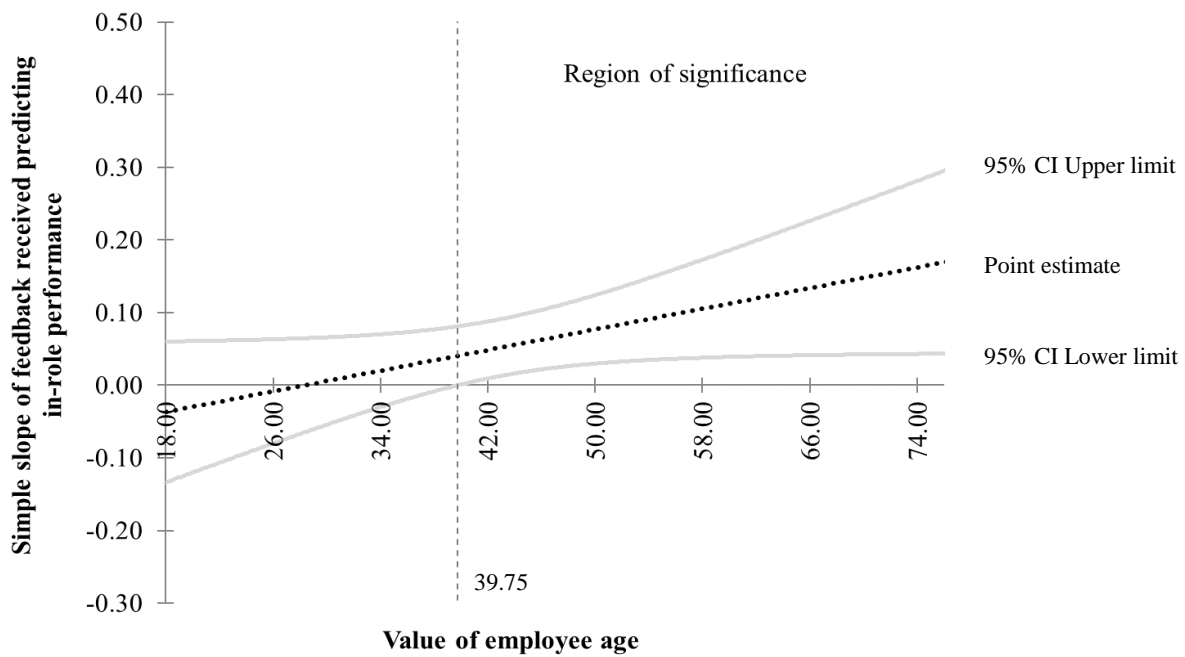


Figure 5.5. Johnson–Neyman regions of significance for the interaction effect of feedback received and age on in-role performance.

H4 proposed that age moderates the positive relationships between feedback given and a) in-role and b) extra-role performance, such that the relationships are stronger for older than younger workers. The interaction between age and feedback given predicting in-role performance was significant ($B = .086$, $SE = .031$, $t = 2.780$, $p = .006$) (see Table 5.5). As depicted in Figure 5.6, the positive relationship between feedback given and in-role performance becomes significant only from the age of 53 and the strength of the relationship increases with increasing age, supporting H4a.

Table 5.5. Moderated hierarchical regression analyses of feedback given and age predicting in-role and extra-role performance.

Predictor	In-role performance		Extra-role performance	
	Step 1 <i>B (SE)</i>	Step 2 <i>B (SE)</i>	Step 1 <i>B (SE)</i>	Step 2 <i>B (SE)</i>
Constant	6.490*** (.030)	6.488*** (.030)	4.909*** (.053)	4.905*** (.053)
Gender ^a	.034 (.031)	.036 (.031)	.206*** (.055)	.208*** (.055)
Tenure	.053 (.036)	.044 (.036)	.051 (.063)	.037 (.063)
Education	-.015 (.032)	-.024 (.032)	-.058 (.057)	-.071 (.057)
Income	-.019 (.034)	-.012 (.034)	.152* (.060)	.162** (.060)
Age	.089** (.035)	.095** (.035)	.137* (.061)	.145* (.061)
Feedback Given	-.003 (.031)	-.005 (.031)	.484*** (.055)	.481*** (.054)
Age*Feedback Given		.086** (.031)		.125* (.054)
<i>R</i> ²	.042**	.058***	.219***	.228***
ΔR^2		.016**		.009*

Notes. *N* = 454.

^a. 0 = female, 1 = male.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

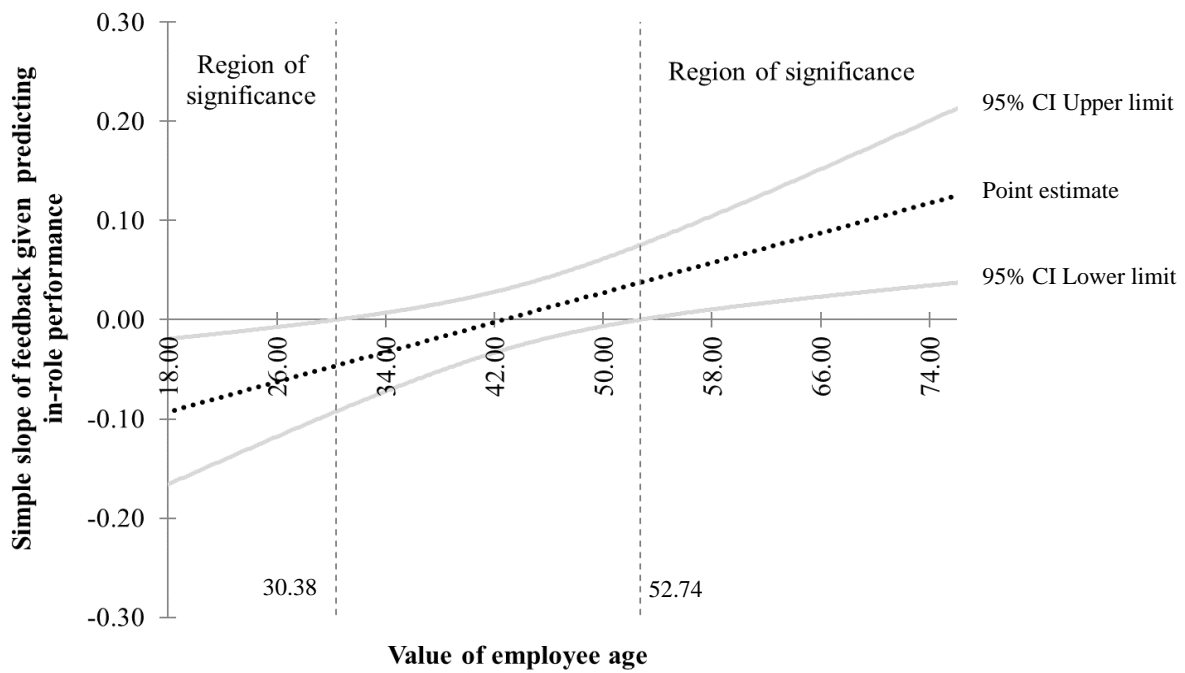


Figure 5.6. Johnson–Neyman regions of significance for the interaction effect of feedback given and age on in-role performance.

Furthermore, the interaction between age and feedback given predicting extra-role performance was significant ($B = .149$, $SE = .057$, $t = 2.600$, $p = .010$). As depicted in Figure 5.7, the relationship between feedback given and extra-role performance is significant at all ages and becomes stronger with increasing age, providing support for H4b.

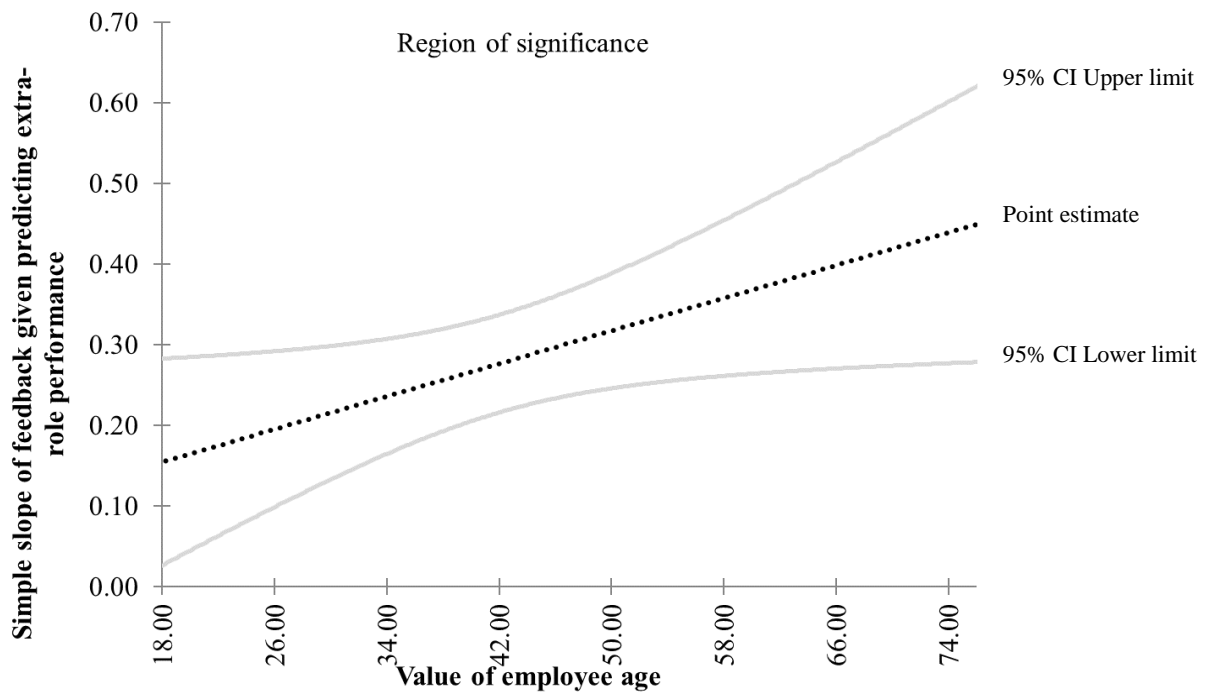


Figure 5.7. Johnson–Neyman regions of significance for the interaction effect of feedback given and age on extra-role performance.

DISCUSSION

We investigated whether receiving and giving social support and feedback were associated with in-role and extra-role performance differently for older and younger workers. Our data provided support for most of our hypotheses, and several factors give us confidence in our findings. Following methodological recommendations from Bohlmann et al. (2018), we operationalized employee age as a continuous variable instead of comparing artificially created age groups, recruited a similar number of workers across age groups to guarantee age variance in our sample, and controlled for age-related constructs, such as organizational tenure, education, and income. In addition, to reduce concerns regarding common method bias, we temporally separated the assessment of moderator, predictor, and criterion variables (Podsakoff et al., 2012).

Implications for research

In this research, we extend knowledge about social job characteristics, which have received less scholarly attention than task-related job characteristics (Oldham & Hackman, 2010). Although research on social job characteristics has tended to focus on their consequences for well-being (Humphrey et al., 2007), our research suggests that social support and feedback may also directly affect performance. Specifically, we demonstrate that social support and feedback are differently associated with performance depending on employee age, responding to calls to investigate job design in the context of workforce aging (Grant, Fried, Parker, & Frese, 2010).

We build upon the conceptual work of Truxillo et al. (2012) and Cadiz et al. (2019) who proposed that job characteristics that fulfill emotion regulation goals (including receiving and giving social support, and giving feedback) would be more beneficial to older workers, while job characteristics that fulfill knowledge acquisition goals (including receiving feedback) would be more beneficial to younger workers. We provide empirical support for these ideas, except that receiving feedback was also more beneficial to older than younger employees.

Two reasons could explain the latter. First, receiving feedback might also have relational benefits that can contribute to the development of the high-quality relationships valued by older workers (Cadiz et al., 2019). Indeed, a recent study by Wang et al. (2015) explored how feedback satisfied such needs differently for younger and older employees, although they did not examine effects on performance. Second, receiving feedback might contribute to higher performance of older workers because, in comparison to younger workers, they have accumulated more knowledge over the years that facilitates the decoding and integration of new information (Fasbender, Gerpott, & Unger, *in press*).

Our results also show that while not all the hypotheses related to *receiving* social support and feedback were supported, those pertaining to *giving* social support and feedback were supported, which highlights the satisfaction of generativity needs as an important factor associated with older workers' performance. Our findings contribute to the broader feedback literature, which traditionally has focused on performance effects of *receiving* (but not *giving*) feedback. We also build upon recent research by Fasbender et al. (2020) that investigated age differences in the antecedents of giving social support to others, by investigating age differences in the consequences of giving social support. Finally, our findings contribute to the broader social support literature that has similarly traditionally focused on the benefits of *receiving* and has recently called for research on the benefits of *giving* social support (Jolly, Kong, & Kim, 2020).

Finally, by using SST as a theoretical framework, we heed recent calls for more theory-driven research on lifespan processes in the work context (Bohlmann et al., 2018). Our findings support SST tenets that high-quality relationships are especially important to older individuals (Carstensen et al., 1999), thus demonstrating SST relevance to the work context. Our findings are also aligned with SDT by revealing positive relationships between the satisfaction of relational needs (through social support and feedback) and performance (Gagné & Deci, 2005). At the same time, our findings show that these relationships are stronger for older than younger employees, in alignment with the work of Hahn and Oishi (2006) showing that relational needs are particularly salient to older adults.

Implications for practice

When it comes to motivating older workers, human resource managers should not only focus on the task-related characteristics of jobs but also on creating a positive work environment fueled by interaction among employees. Research has shown that older workers are often victims of discrimination at work, including social exclusion (North & Fiske, 2016). There are several ways in which organizations can counteract these phenomena and provide opportunities for the development of meaningful social relationships.

First, organizations can foster collaboration and interdependence among age-diverse employees through the development of team projects. Also, informal moments to socialize that include employees of all ages can be organized, such as company social events, in-person or remotely. Second, formal feedback meetings that build rapport can be incentivized, trained, and monitored. Third, older workers can be encouraged to be involved in initiatives that satisfy their generative needs, such as mentoring programs. In the case of reverse-mentoring, in which both the older and younger employee provide and receive knowledge and guidance, older employees can even upgrade their skills (Murphy, 2012).

Nonetheless, we offer two caveats to these practical implications. First, social job characteristics are only one aspect of job design, and in our research their effects were studied in isolation from other non-social job characteristics. This means that the existence of social support and feedback, although important for the performance of older workers, might not necessarily compensate for the absence of other job characteristics. Second, the need to retain and motivate senior talent is likely to depend on occupation, industry, country, and public policy. Current policies to prolong working lives might change in response to economic crises, employment rates, or migration fluctuations (Ramos & Lacomblez, 2005).

Limitations and future research directions

Our research also has limitations. First, all variables were assessed by self-report. Future research should include other sources (Podsakoff et al., 2012). Specifically, employee performance could be evaluated by the supervisor or using objective data. Along with reducing common method bias, external performance indicators would also avoid self-overvaluation of performance, which appears to be the case in our sample. The mean score for in-role performance was 6.49 out of 7 (standard deviation of only 0.66); thus, the restricted range could have attenuated reliability and the associations with social support and feedback.

Also, the models predicting in-role performance had lower R^2 values than the models predicting extra-role performance, which can also be a reflection of the restricted range of in-role performance, along with the absence of more relevant predictors, such as autonomy (Humphrey et al., 2007). Although data was collected in three waves, our design also does not allow causal conclusions to be drawn. Future research should use experimental or quasi-experimental designs to do so.

Second, the measure we used to assess feedback received includes feedback received from both supervisor and peers. As these sources might have different effects on performance, future research should investigate age differences in responses to managerial versus peer feedback. In addition, when measuring feedback received, we did not control for the age of the feedback-provider. Considering that receiving feedback from an older versus a younger supervisor might produce different effects (Perry, Kulik, & Zhou, 1999), future research should also account for the age of the feedback-provider.

Further, the measure used to assess feedback given refers to feedback given to coworkers, and does not differentiate their job level. Future research should also investigate age differences in the feedback given to coworkers holding different job levels (e.g., subordinates versus peers) by employees holding different job levels (e.g., managers versus non-managers) as job-level of both the feedback-provider and the feedback-receiver might influence the frequency and quality of feedback given.

Finally, our sample of MTurk employees from different organizations did not allow us to control for the effects of different performance management and feedback systems implemented in each organization, or the extent to which such systems emphasize peer feedback and define the frequency and outcomes of feedback. Future research should investigate our hypotheses in specific occupations and organizations in which researchers can control for the effects of specific feedback systems. Additionally, our U.S. sample might limit cross-cultural generalizability of findings. Future research should investigate the relationships

studied in collectivistic countries, in which meaningful social relationships might be even more important to the motivation of workers, and especially older workers. Therefore, our findings and the respective contributions to theory and practice should be interpreted with caution as they may not generalize across occupations, organizations, and cultures.

Our findings suggest interesting avenues for future research. First, research should investigate age-related psychological mechanism(s) responsible for the moderating effect of age on the relationships between social support and feedback and performance. According to SST, older individuals prioritize emotion regulation goals, which they fulfill by maintaining close and high-quality social relationships, because they perceive limited time available in the future (Carstensen et al., 1999). Future research should investigate the roles of future time perspective and emotion regulation goals in channeling the moderating effects of age in the relationships between social support and feedback and performance.

A second avenue for future research is to investigate the combined effects of multiple job characteristics on older versus younger workers' performance, including the interaction between different social characteristics (e.g., receiving and giving social support) and the interaction between social and non-social job characteristics (e.g., receiving social support and autonomy). This can increase understanding of when social job characteristics are more or less important to the performance of older workers and would help to fine-tune recommendations for human resource managers tasked with redesigning jobs to keep older workers motivated and productive.

CONCLUSION

The current study integrates job design with SST and SDT to propose how social job characteristics might be more important to performance depending on employee age. Specifically, we investigated the relationships between receiving and giving social support and feedback, and self-reported performance of older and younger workers. Associations between these two social job characteristics and performance were generally stronger for older than younger workers. Our findings contribute to research on job design and aging and can be used by human resource managers and organizations to design jobs and create workplaces better suited to motivate an aging workforce.

CHAPTER 6.

GENERAL DISCUSSION

GENERAL DISCUSSION

As John Donne wrote in 1623, “no man is an island”. Disciplines, from psychology to anthropology, sociology, economics, or neuroscience, have explored the social nature of humans: we rely on cooperation with others to survive and thrive and we all desire to feel connected to others – to love and care, and to be loved and cared for (Baumeister & Leary, 1995; Deci & Ryan, 2000). Social relationships are, thus, important drivers of human behavior across life domains. Yet, what motivates individuals to develop social relationships is proposed to differ across the lifespan (e.g., Carstensen et al., 1999; Erikson, 1950). While newborns are dependent upon caregivers for food, love, and safety, school-aged children need to interact with other children and teachers to develop feelings of competence and self-esteem, and adolescents are heavily influenced by their peers when developing their identities. Adults also pursue social relationships for different reasons, including the search for intimacy and the desire to leave a mark in the world that will outlive them (Erikson, 1950).

Research has shown that this need for relatedness – defined as the need to establish a sense of belongingness and connectedness with others – is one of the most important and universal basic psychological needs (Deci & Ryan, 2000). However, recent research has also shown that needs for relatedness are more salient to older adults than to younger adults (Hahn & Oishi, 2006). Indeed, findings from socioemotional selectivity theory (SST) show that younger and older adults pursue social interactions to achieve different goals. Younger adults seek to connect with a larger number of social partners, and more new social partners, in order to gain knowledge and information that can be useful in the long-term. In contrast, older adults have smaller yet more emotionally fulfilling social networks as they prioritize close and established social partners with the goal of experiencing social connectedness, social support, and emotion regulation in the short-term (e.g., Carstensen, 1992; Carstensen, 1995; Fredrickson & Carstensen, 1990).

In organizational research, SST has been used to explain age differences in employees’ attitudes and behaviors at work. For instance, the need of older workers to establish meaningful and high-quality relationships has been used to justify why social cohesion at work contributes to the successful adaptation of workers as they grow older and advance in their careers (Robson & Hansson, 2007; Taneva, Arnold, & Nicolson, 2016), and why the perceived relationship fit with coworkers contributes more to the job satisfaction of older versus younger workers (Westerman & Yamamura, 2007). With the workforce aging and shrinking, and the proportion of older workers increasing in the workplace in most developed

countries, such research has become vital to inform managers on how to satisfy older workers' needs and expectations in the workplace.

Yet, despite the growing emergence of studies applying SST to the work context, this line of research is still recent and underdeveloped, with an enormous potential to further inform organizations on how to reap the benefits of meaningful social relationships in the workplace to leverage older workers' talent. For instance, with a few recent exceptions focused on leadership and leader-member exchange (e.g., Stephenson, 2017; Thrasher, Biermeier-Hanson, & Dickson, 2020; Truxillo & Burlacu, 2015), the vast scientific literature on employee-supervisor relationships is still mostly age-blind. Research on organizational justice, specifically, has yet to fully incorporate and discuss employee age (and supervisor age) as an important boundary condition to employee perceptions of and reactions to (un)fairness in the workplace. Additionally, until the 2000's, research on job design had neglected the study of employee age as an important boundary condition to the effects of job characteristics. Although in the last two decades, research on age differences in reactions to job characteristics has emerged, most studies have focused on task and knowledge characteristics of jobs, rather than on social characteristics of jobs. This thesis addresses these two knowledge gaps, applying an aging lens to two of the most important theories of work motivation: organizational justice and job design (Latham & Pinder, 2005).

By using SST as a theoretical framework, we expanded the line of enquiry that investigates how changes in social preferences over the lifespan influence attitudes and behaviors of age-diverse workers. In combining SST, organizational justice, and job design, we investigated how older versus younger workers perceive and react to the "relational sides" of workplace fairness and job design. Specifically, we explored age differences in the importance employees attribute to fair interpersonal treatment, fair communication, and fair procedures (Chapter 3), investigated age and age-related differences in the relationship between employee perceptions of interpersonal justice and trust in supervisor (Chapter 4), and examined age differences in the relationships between receiving and giving social support and feedback at work, and employee performance (Chapter 5).

In the present chapter, we discuss the implications of our findings for management research and practice, and also reflect on limitations of our studies and on possible avenues for future research. Finally, we provide concluding remarks.

IMPLICATIONS

Implications for research

This thesis has several implications for research. In what follows, we discuss our contributions to research on organizational justice and job design, and more broadly, to the growing field of aging and work.

Organizational justice

Research on organizational justice has traditionally focused on employees' perceptions of how fairly they are treated in the workplace in terms of the outcomes they receive, the organizational procedures that affect them, the quality of the information they are given, and the respect and concern with which they are treated (Colquitt, 2001). With some exceptions (e.g., Shi et al., 2009 work on personality differences in reactions to justice; Khoreva & Tenhiälä, 2016 work on gender differences in reactions to justice), most research on organizational justice has focused on the effects of fairness perceptions on employees' attitudes and behaviors at work, without specifically addressing how individual differences might shape these reactions. With regard to employee age, in particular, despite a recent call for research on the salience and predictive strength of justice dimensions for different age groups (Fortin et al., 2016), studies addressing the role of employee age on fairness perceptions and reactions are scarce.

For instance, it has been shown that procedural justice affects absenteeism (Tenhiälä et al., 2013) and stress (Yaldiz et al., 2018) more strongly for older than younger workers. It has also been shown that employees of different ages respond differently to different types of distributive injustice: while younger (but not older) workers' job satisfaction is negatively affected by being under-rewarded, older (but not younger) workers' job satisfaction is negatively affected by being over-rewarded (Kollmann et al., 2020). Also, significant relationships between informational and interpersonal justice, and emotional exhaustion and deviance behaviors have been found for older (but not younger) workers, while significant relationships between distributive and procedural justice, and emotional exhaustion and deviance behaviors have been found for younger (but not older) workers (Brienza & Bobocel, 2016). This thesis builds on this previous work in several ways.

First, with the notable exception of Brienza and Bobocel's (2016) work showing age differences in reactions to the four justice dimensions, prior studies do not consider all justice dimensions at once, but rather focus on age differences in reactions to a specific justice

dimension. Such approach provides an incomplete picture of how employee age might moderate relationships between the different justice dimensions, and attitudes and behaviors at work. Further, the studies conducted so far assume that employees of different ages react differently to justice but neglect the fact that employees of different ages might also *view justice differently*. The studies in Chapter 3 were designed to address these two issues. Before investigating how age might change reactions to justice, we took a step back to explore the extent to which employees of different ages value each type of justice in the workplace. Responding to the call for research from Fortin et al. (2016), we examined the *salience* of the different justice dimensions for employees of different ages, using three studies with different and complementary methodologies (interviews, field survey, and scenario-based experiment). Based on SST tenet that high-quality relationships are more important to the motivation of older than younger workers (Carstensen et al., 1999), we proposed and found that employee age is positively related to the importance employees attribute to relational (i.e., interpersonal, informational, and procedural) justice, while age is not associated with the importance employees attribute to non-relational (i.e., distributive) justice.

Second, the few studies relating employee age and reactions to justice focus on how age might attenuate relationships between fairness perceptions and *negative* employee reactions, such as stress (Yaldiz et al., 2018), absenteeism (Tenhiälä et al., 2013), and deviant behaviors (Brienza & Bobocel, 2016); they do not consider how age might also strengthen *positive* reactions to justice. Additionally, although most of these studies built their hypotheses using SST as the main theoretical framework, they did not test for any of the age-related psychology mechanisms proposed by SST as being responsible for the effects of age. In Chapter 4, we presented two studies that were conducted to address these two gaps. Using a scenario-based experiment and a two-wave survey, we examined the potential moderating role of age on the relationship between interpersonal justice (the most relational justice dimension) and a *positive* employee reaction: trust in supervisor. Further, we tested if this moderating effect of age on the relationship between interpersonal justice and trust could be explained by older workers' greater focus on emotion regulation goals, a mechanism proposed by SST to justify older workers' greater need for meaningful relationships (Carstensen et al., 1999). We found that the relationship between employee perceptions of justice and trust in supervisor was indeed stronger for older than younger workers, because of older workers' stronger emotion regulation goals.

Our findings advance organizational justice research in three important ways. First, by building on and expanding the few studies that examine organizational justice under an aging

lens, we establish employee age as an important boundary condition for both the salience of justice and reactions to justice. Second, we build on the multiple needs model of justice which argues that employees care about fairness because of their basic psychological needs for relational belonging, for the instrumental control of outcomes, and for being morally virtuous (Cropanzano, Byrne et al., 2001). Our findings suggest that the psychological needs fulfilled by a fair workplace – specifically, relational belonging needs – can differ significantly depending on employee age. As a consequence, employees of different ages seem to value organizational practices and supervisor behaviors that satisfy their relational belonging needs differently, and to react to violations of such needs differently as well. Finally, these findings demonstrate that the advantages of treating employees fairly can be even more significant when it comes to managing an older workforce.

Job design

Research on job design, and in particular on the job characteristics model, has traditionally focused more on how *task* and *knowledge* characteristics of jobs influence employees' motivation and performance, overlooking the *social* dimensions of work (Oldham & Hackman, 2010). However, in the last decade, greater research attention has been paid to the potential effects of social job characteristics on employees' motivation. As contemporary organizations and jobs have evolved from being mainly manufacturing-based to being mainly knowledge-based and service-oriented, employees are increasingly required to engage in social interactions with coworkers and customers (Grant & Parker, 2009). In a commentary article about the future of job design research, Oldham and Hackman (2010) noted this ever-growing social nature of jobs, and stated that the time had come to investigate the role of social job characteristics in increasing employees' motivation and performance at work. In an article reviewing 100 years of research on job design in the centennial special issue of the *Journal of Applied Psychology*, social job characteristics were again identified as an important avenue for future research in the field (Parker et al., 2017).

Calls to investigate job design in the current context in which organizations and employees are embedded have also identified the aging of the workforce, as well as the coexistence of several different generations in the workplace, as important changes in the work context that should be considered in the current study of job design (Grant et al., 2010; Parker et al., 2017). With this thesis, we responded to these calls and investigated job characteristics in light of important current changes in work contexts: 1) the increasingly social nature of jobs, and 2) the aging of the workforce. Additionally, previous research on

social job characteristics has focused more on its consequences for employee well-being and for attitudinal outcomes, such as job satisfaction, than on its potential to improve employee performance (Humphrey et al., 2007), a gap we also addressed with this thesis.

We focused on two social characteristics of jobs – social support and feedback – because other social characteristics such as task interdependence and interaction outside the organization, as well as contact quality with coworkers, have been recently investigated using an aging lens (Fasbender et al., 2020; Fazi et al., 2019). Further, the few studies on the effects of social support and feedback for employees of different ages focus only on the “receiving side” of social support and feedback (Bouville et al., 2018; Wang et al., 2015). In their conceptual article on age differences in reactions to job characteristics, Truxillo et al. (2012) proposed that both *receiving* and *giving* social support and feedback would differently affect work attitudes and behaviors of older and younger workers. As so far, to our knowledge, no studies have directly investigated such differences, we decided to focus our research on age differences on the relationships between receiving and giving social support and feedback, and employee performance.

In Chapter 5, we built upon the conceptual work by Truxillo et al. (2012) and Cadiz et al. (2019) and empirically tested some of their propositions using a three-wave survey study with age-diverse employees. We found that the associations between receiving and giving social support and feedback, and in-role and extra-role performance were generally stronger for older than younger workers.

Our findings contribute to the literature on job design in three important ways. First, we advance knowledge on the relationships between social job characteristics and behavioral outcomes, specifically employee performance. Our research suggests that social support and feedback affect not only well-being and satisfaction outcomes (which in turn may affect performance, e.g., Wood, Van Veldhoven, Croon, & de Menezes, 2012) but may also directly affect performance. This is particularly relevant if we consider that over the years, research has shown mixed findings on the effects of social support on performance (e.g., AbuAlRub, 2004; Beehr et al., 2000), and on the effects of feedback on performance (Kluger & DeNisi, 1996). Our findings establish employee age as an important boundary condition for the positive associations between social support and performance, and feedback and performance, to emerge.

Second, we add to the understanding of how the relationships between social job characteristics and work outcomes vary as a function of individual differences, specifically employee age. Our findings support the Truxillo et al. (2012) proposition that job

characteristics that contribute to the fulfillment of emotion regulation goals would be more beneficial to older workers. Specifically, we found stronger associations between receiving and giving social support and giving feedback, and performance for older than younger workers. However, we also found stronger associations between receiving feedback and performance for older than younger workers, a result that contradicts Truxillo et al. (2012) proposition that job characteristics that fulfill knowledge acquisition goals would be more beneficial to younger than older workers. Our findings suggest that receiving feedback might also have relational benefits that can contribute to the development of the high-quality relationships valued by older workers, a suggestion also made by Cadiz et al. (2019).

Finally, by exploring both the “receiving side” and the “giving side” of social job characteristics, we also contribute to the feedback and social support literatures, that have almost exclusively focused on the “receiving side”. Our findings suggest positive effects of not only receiving but also of giving feedback and social support.

Aging and work

We contribute to the growing body of literature on aging and work in several ways. First, we confirm the relevance of lifespan approaches to development, and in particular of SST, to research on how to better manage employees of different ages. By showing that older employees and job seekers value relational justice more than younger employees and job seekers (Chapter 3), that older employees respond to interpersonal justice with greater trust in the supervisor comparing to younger workers (Chapter 4), and that older employees that receive and provide social support and feedback from others in the workplace report greater levels of performance than younger employees (Chapter 5), we support the main tenet from SST that high-quality relationships are especially important to older individuals (Carstensen et al., 1999). Further, results from the studies on Chapter 4 establish emotion regulation goals as an important theory-driven psychological mechanism responsible for the age-related changes in preferences for social relationships; and provide further support for the strength and vulnerability integration model (SAVI; Charles, 2010). SAVI proposes that older individuals are less successful in regulating their emotions in the face of relational violations and threats to social belonging, and that as a result, they tend to react more strongly.

Second, our findings in Chapter 5 shed light into the complex relationship between employee age and performance. Although previous research has shown a consistent positive relationship between age and extra-role performance (e.g., Ng & Feldman, 2008), there are mixed and complex results regarding the relationship between age and in-role performance.

For instance, meta-analyses have found positive relationships between age and performance (e.g., Waldman & Avolio, 1986), no relationships between age and performance (e.g., Ng & Feldman, 2008), and inverted U-shaped relationship between age and performance (Sturman, 2003). These mixed findings suggest that different factors may influence the in-role performance of older versus younger workers. Our findings demonstrate the important role that feedback and social support at work may play in boosting the performance of older workers. Additionally, our findings provide further evidence contrary to the prevailing stereotype that performance decreases with age (Posthuma & Campion, 2009).

Finally, by showing that older (but not younger) workers report higher performance when they provide more social support and feedback to others at work (Chapter 5), our findings highlight the role of generativity as an important psychological need driving older workers' behaviors in the workplace. We contribute to existing research on age and generativity that has focused mostly on the motivational potential of generative behaviors (e.g., Kanfer & Ackerman, 2004; Lang & Carstensen, 2002) by showing positive relationships between generative behaviors and the performance of older workers.

Implications for practice

Given the rapid aging of the workforce and the consequent increase of age diversity in organizations, this thesis provides several contributions to management practice. Our findings in Chapter 3 show that all employees, *but especially older employees*, pay attention to and value being treated with respect and concern by their supervisors, experiencing organizational procedures that are transparent, accurate, consistent, bias free, and with opportunities for voice, and receiving timely and adequate justifications and explanations for decisions that affect them. Additionally, our findings in Chapter 4 reinforce the idea that the relationship employees establish with their direct supervisor is particularly important to older employees. When the employee-supervisor relationship is of high-quality and based on respect, older employees trust their supervisor more than do younger employees, whereas disrespect from supervisors results in older employees trusting their supervisor less than is the case for younger employees.

Managers can use these insights to adapt their management practices. When managing age-diverse workers, but particularly older workers, they should ensure that organizational procedures are perceived as fair, that they provide older employees with adequate explanations for the decisions they make, and especially that they show respect and concern for older employees in ways that build strong and trusting relationships. Organizations can

train their supervisors to be better at enacting fair behaviors through training in organizational justice principles and applications (Greenberg, 2006; Skarlicki & Latham, 1996, 1997, 2005). Organizations can also train their supervisors in leadership skills that contribute to building high-quality relationships with older workers and in communicating in ways that make them feel like trusted and valued members of their team (Yaldiz et al., 2018).

Second, our work shows that the relationships employees develop at work, not only with their supervisor, but also with their coworkers, are especially important to older employees. Our findings in Chapter 5 show that both receiving and providing assistance and advice, as well as feedback on job performance, contributes to the development of meaningful relationships at work, which are especially valued by older workers. When older workers establish such high-quality relationships, they perform better on their core job tasks and also engage in more helping behaviors.

These findings inform managers that older workers' jobs should be (re)designed taking into account not only their preferences for specific task-related characteristics of jobs (such as skill variety or autonomy) but also considering the importance that social relationships in the workplace have to older workers. Managers should work towards the development of a positive work environment that nurtures meaningful relationships in the workplace. Managers can also incentivize the development of such meaningful relationships by creating age-diverse teams. In such teams, collaboration and interdependence among employees can be fostered through the development of team projects with common goals (Tarricone & Luca, 2002), and through moments dedicated to social interaction among coworkers such as company social events and teambuilding activities. By doing that, managers can also ensure that older workers are not victims of social exclusion, gossip, or bullying, as previous studies have found to often be the case (Cuddy, Norton, & Fiske, 2005; Einarsen & Skogstad, 1996; Marchiondo, Gonzales, & Ran, 2016; North & Fiske, 2016).

Third, our findings in Chapter 5 show that older workers are especially motivated by generative needs, which means they feel a greater need to help future generations. Specifically, when they have opportunities to provide assistance and feedback to coworkers, their performance is higher. These findings show that an additional way in which managers can stimulate older workers' performance is by designing initiatives in which older workers can satisfy their generative needs. For instance, managers might implement mentoring programs (Allen, Eby, & Lentz, 2006; Ragins & Kram, 2007). These programs are not only important for the career advancement of younger workers (e.g., Chao, Walz, & Gardner, 1992; Lankau & Scandura, 2002; Ragins, Cotton, & Miller, 2000; Scandura, 1992) but they

also create opportunities for older workers (the mentors) to develop close relationships with the younger ones (the mentees), and to transfer their accumulated knowledge. In the case of reverse-mentoring programs, in which both the older employee and the younger employee provide and receive knowledge and guidance, older employees can even upgrade their skills (Murphy, 2012). Additionally, participation in mentoring programs can reduce older workers' stereotype threat (i.e., the fear of behaving in a way that confirms stereotypes about one's group) which can negatively affect older workers' engagement (Kulik et al., 2016).

On a broader level, we hope that the findings of this thesis will also contribute to challenging age-related myths and reducing ageism. The motivation for developing this thesis emerged from one of the greatest contemporary societal issues we face today: the aging of the global population (United Nations, 2019). In virtually all countries in the world, the aging of the population is leading to the inversion of age pyramids (Murray et al., 2020). As a consequence, the age composition of the workforce has been changing for decades, with an ever-growing proportion of older workers, a global trend that is projected to continue. Concerns about how to manage older employees have spanned public policy initiatives in the last decades, with the most recent being the United Nations "Decade of healthy aging" and the World Health Organization "Ageism through the ages" campaigns to combat ageism. We contribute to this movement by providing further scientific evidence contradicting the prevailing stereotype that older workers are less motivated than younger workers. Our work assumes that older workers are not less motivated than younger workers, but rather that older workers are motivated by different needs. Better understanding what motivates older workers is a necessary first step for organizations to adapt work practices and organizational procedures to the needs, expectations, and preferences of older workers.

There are several strategies organizations can follow to combat ageism. First of all, organizations can provide training to managers regarding age stereotypes and age-related prejudice (Burmeister et al., 2021; Hertel, Van der Heijden, De Lange, & Deller, 2013; Parker & Andrei, 2020; Posthuma & Campion, 2009). Organizations can also implement inclusive and non-discriminatory HR practices for individuals of all ages (Boehm, Schröder, & Bal, 2021; Kunze, Boehm, & Bruch, 2013). By doing this, organizations can foster mutual respect for and among all employees, regardless of their age, creating an age-diversity climate (Boehm et al., 2014).

Finally, this thesis provides important guidance to managers that want to recruit and retain senior talent, in terms of what is valued by older individuals. This thesis also provides important insight for those managers who are still biased against recruiting and retaining older

workers, as it shows that, under the right conditions, older workers are as motivated and productive as younger workers. Organizations can build their employer brands by stressing how their policies and practices ensure fair treatment in terms of respect and concern for each individual employee, and by stressing how their culture advocates for age-diversity and develops strong high-quality relationships among employees.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Since the specific limitations of each study can be found in each empirical chapter, here we simply provide a non-exhaustive summary, and propose how future research can address such limitations. Additionally, and perhaps more importantly, we discuss how our findings highlight interesting avenues for future research.

Methodological shortcomings

The studies that compose this thesis share several methodological shortcomings. The studies that used surveys (Studies 2, 5 and 6) contained exclusively self-report measures. Such designs raise legitimate concerns regarding common method bias, i.e., a potential inflation of the estimates of relationships between two constructs measured together (Campbell & Fiske, 1959; Podsakoff & Organ, 1986). One of the main reasons for common method variance is the inherent human need to maintain consistency in a series of answers. Although we temporally separated moderator, predictor, and criterion variables in Studies 5 and 6, as a recommended way to avoid common method bias (Podsakoff et al., 2012), future research should also collect data from multiple sources, for example from coworkers and supervisors regarding employees' behaviors.

The scenario-based experiments (Studies 3 and 4), although useful in following up correlational studies and demonstrating causality, might have lacked realism, which in turn can influence the findings obtained. In addition, findings might also depend on the specific context of the vignette used. Therefore, it is not possible to know for sure whether participants would react the same way in real work situations. Future research could use quasi-experimental field studies in order to combine advantages of experiments in terms of internal validity, with the advantages that correlational field studies bring in terms of ecological validity of findings.

Moreover, across our studies, we have used diverse samples of employees, from a variety of organizations and occupations and with different levels of education, income, and job and

organizational tenure. While one could argue that such heterogeneous samples allow for greater generalizability of findings (e.g., Cheung et al., 2017; Shen et al., 2011), we cannot neglect the fact that the nature of specific occupations, organizations, or industries might affect the relationships investigated under the scope of this thesis. Future research should investigate the moderating role of age on the relationships between relational justice and social job characteristics, and employees' attitudes and behaviors at work, in specific organizations to control for potential occupational-specific confounding variables.

Finally, our studies examined age differences in how employees value and respond to certain organizational practices, supervisor behaviors, and job characteristics. However, these age differences were revealed by comparing different younger and older employees, and not by within-employee comparisons over the lifespan. This "snapshot" approach clearly does not allow for a true investigation of changes across the lifespan. Further, as discussed in Chapter 2, the aging process is a multidimensional process of cognitive, physical, and socioemotional changes that happen not only due to age-graded influences (i.e., the ones more strongly correlated with chronological age), but also due to history-graded influences (i.e., factors influencing development that are specific for particular cohorts or generations) as well as non-normative influences (i.e., factors influencing development that are idiosyncratic to each individual). Ideally, future research should use true longitudinal designs to measure age-related changes in work attitudes and behaviors within individuals (Bohlmann et al., 2018), by assessing the same sample multiple times at different ages (Ployhart & Vandenberg, 2010; Wang et al., 2017). Only with such designs can aging and work research truly establish if such differences occur within individuals across different times, generations, and contexts, depending on adult development psychological processes.

Avenues for future research

The studies in this thesis leave some issues unaddressed, which can guide future research. With regard to age differences in reactions to justice, future research should consider not only how employees of different ages respond to event justice (i.e., specific occurrences that take place within the work environment and that can be judged in terms of how fair they are) but also how entity justice (i.e., how overall fair a supervisor or organization is) might shape reactions to event justice. In other words, research has shown that event-specific justice perceptions are accumulated over time to form entity justice perceptions (Cropanzano, Byrne et al., 2001), and these are proposed to influence subsequent event-specific justice perceptions (Cojuharenco, Marques, & Patient, 2017; Jones & Skarlicki, 2013). This might be especially

important to the study of age differences in responses to justice because employee age is highly correlated with organizational tenure (North, 2019). As a consequence, it is likely that older employees have worked with their supervisor longer than younger employees, and therefore, may have formed a stronger entity justice perception regarding their supervisor that can color subsequent event-specific fairness judgments.

As justice events should not be studied in isolation from previous justice-related experiences, we can also argue that social job characteristics should not be studied in isolation from other job characteristics. As jobs are characterized by a multitude of attributes, future research should also examine employee age differences in response to different combinations of social characteristics of jobs (e.g., social support and feedback) and non-social characteristics of jobs (e.g., autonomy, job complexity or physical demands) using samples from different occupations. This way, researchers can increase understanding of when are social job characteristics more or less important to age-diverse employees.

Furthermore, future research investigating employee age differences in reactions to interpersonal relationships at work should consider not only employee age, but also *supervisor age* and *coworker age*. In the case of employee-supervisor relationships, due to the workforce aging, older workers are now more likely than ever to work in jobs that used to be filled by younger workers, and to be supervised by individuals younger than themselves. This changes the previous norm that supervisors are traditionally older and more experienced, which might create status incongruence in the supervisor-subordinate dyad (Perry et al., 1999). As a result, older workers might have different expectations for younger supervisors than do younger workers, which can influence how older workers evaluate the behavior of younger supervisors (Collins et al., 2009). Future research should investigate how employees of different ages might respond to relational (in)justice from supervisors of different ages.

In the case of relationships between coworkers, research has shown that the relative age of an employee compared to the work group can explain age differences in employees' attitudes and behaviors over and above the variance explained by individual chronological age (Cleveland & Shore, 1992; Cleveland, Shore, & Murphy, 1997). In addition, relational demography research posits that employees feel more attracted towards and prefer to develop relationships with coworkers that are similar to them (Lawrence, 1988; Riordan & Shore, 1997). Future research should investigate if employees of different ages respond differently to social support and feedback received from coworkers of different ages.

Another unaddressed issue in this thesis is the potential impact of differential aging in employees' responses to justice and job characteristics in the workplace. The concept of

differential aging, as explained in Chapter 2, notes that interindividual differences in work and life outcomes become more pronounced as people get older due to the idiosyncratic nature of the aging process, which is influenced by a myriad of biological and environmental factors (Dannefer, 2003). In other words, differential aging scholars would probably argue that employees' attitudes and behaviors at work (for instance, in response to justice or job design) become more diverse with greater age. To address this matter, future research should use not only linear models but also nonlinear models to investigate age differences in work outcomes.

The findings of this thesis suggest additional interesting avenues for future research. Specifically, we show that employees of different ages not only *respond* differently to specific types of justice (Chapter 4), but they also *value* specific justice dimensions differently (Chapter 3). Taking a person-environment fit approach (e.g., Caplan, 1983), future research might investigate how employees' responses to justice might depend on the fit or misfit between what employees value (which is associated with their age) and what they perceive in the workplace. The same approach might be used in future research on age differences in responses to job characteristics. Future research should also consider how differences between desired versus actual job characteristics impact attitudes and behaviors of age-diverse workers (Perry, Dokko, & Golom, 2012; Truxillo et al., 2012).

Even as the findings of this thesis highlight the importance of high-quality relationships for older workers (Carstensen et al., 1999), they also suggest important new research directions for future models of work. First, how are older workers dealing with the reduction in social contact due to the current covid-19 pandemic and the consequent widespread implementation of remote and hybrid models of work (e.g., Eurofound, 2020)? How can organizations redesign jobs in such an environment to ensure that employees are still able to develop and maintain meaningful relationships with supervisors and coworkers? Second, how will older workers be affected by the anticipated automation of jobs due to advances in artificial intelligence and robotics (e.g., Vazquez et al., 2019)? As these changes are already resulting in an increase on the demand for jobs requiring high levels of social interaction and social skills (Deming, 2017), future research should investigate how the stronger relatedness needs (Hahn & Oishi, 2006) and socioemotional skills (Blanchard-Fields, 2007) of older workers might make them especially desirable as talent in the future of work.

CONCLUDING REMARKS

The aging workforce is not a managerial concern for the future – it is a reality right now. As the proportion of older workers keep increasing, it is time to move past “the demographic *time bomb*” (e.g., Financial Times, 2020) and the “silver *tsunami*” (e.g., The Economist, 2010) and to start seeing the aging workforce as an opportunity rather than a burden. It is time for organizations to design and adapt their jobs to the different needs of older employees, in order to keep them healthy, happy, and productive throughout longer working lives (De Vos et al., 2020; Van der Heijden et al., 2020).

One way of doing so is by creating workplaces that nurture the development and maintenance of close and high-quality social relationships, thus contributing to the satisfaction of older workers’ greater needs for social connectedness (Carstensen, 1999; Hahn & Oishi, 2006). An organizational culture deep-rooted in respect and concern for each individual – in which older workers are fairly treated by their supervisors, and where they are able to receive and give social support and feedback from and to their coworkers – might be a first, simple, and meaningful step.

We hope our work can inspire managers to build and foster strong social relationships in order to harness the potential of the aging workforce. With older workers’ preferences for close and high-quality connections and their propensity toward generative behaviors, managers should stop wanting older employees to be “young at heart” and embrace the rewards that come with employees being “old at heart”.

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APPENDICES

APPENDIX A: MATERIALS USED IN STUDY 1

Interview script (English version)

1. *Could you please briefly describe your professional career, before and after joining the company you work for in the present?*
2. *So, for how long have you been working at this company? And how old are you? What is your nationality?*
3. *Can you describe your typical working day (e.g., you arrive in the morning and...)?*
4. *What makes a workday especially good (e.g., days in which you arrive home and think “I love my job”)?*
5. *What makes a workday especially bad (e.g., days in which you arrive home and think “I hate my job”)?*
6. *If you could change aspects of your work, what would you change (e.g., it can be everything: the work, the colleagues, the supervisor...)?*
7. *What is most important for you in your relationship with your supervisor – what do you expect from that relationship?*
8. *What attitudes or behaviors from your supervisor could be harmful for your relationship?*
9. *And what do you expect from the company, your employer?*
10. *What does your company need to do for you to continue working here?*
11. *What could your company do that would be so negative that you would consider leaving?*
12. *I think we discussed all the topics I wanted to discuss. Is there anything that you want to add?*
13. *Is there anything that I should have asked, and I did not?*

Interview script (Portuguese version)

1. *Pode descrever-me de forma breve o seu percurso profissional, antes e depois de entrar na empresa onde está agora?*
2. *Então há quanto tempo trabalha na empresa onde está agora? E que idade tem? Qual é a sua nacionalidade?*
3. *Pode descrever-me um dia típico do seu trabalho (ex. chega de manhã e...)?*
4. *O que é que torna um dia especialmente bom no seu trabalho (ex. um dia em que chega a casa e pensa “adoro o meu trabalho”)?*
5. *E o que é que torna um dia especialmente mau no seu trabalho (ex. um dia em que chega a casa e pensa “detesto o meu trabalho”)?*
6. *Se pudesse mudar aspetos do seu trabalho, o que mudaria (ex. pode ser tudo: o trabalho, os colegas, a chefia...)?*
7. *O que é mais importante para si na relação com a sua chefia – o que é que espera dessa relação?*
8. *Que atitudes ou comportamentos da sua chefia seriam prejudiciais/negativos para a vossa relação?*
9. *E o que é que espera da sua empresa?*
10. *O que é que a sua empresa precisa de fazer para que continue a trabalhar lá?*
11. *O que é que a sua empresa poderia fazer de tão negativo que o levasse a considerar sair?*
12. *Penso que falámos de todos os tópicos que eu queria falar. Há alguma coisa que queira acrescentar?*
13. *Há alguma coisa que eu devia ter perguntado e que não perguntei?*

APPENDIX B: MATERIALS USED IN STUDY 2

Importance of justice dimensions (adapted from Colquitt, 2001)

Below is a set of sentences about work. People are generally different in the importance they attribute to these aspects (for some people some of these aspects are more important, for other people, other aspects are more important). How important is it for you that...?

1. Your salary, benefits and promotions reflect the effort you have put into your work
2. Your salary, benefits and promotions are appropriate for the work you have completed
3. Your salary, benefits and promotions are justified, given your performance
4. You are able to express your views and feelings during procedures that affect your salary, benefits, and promotions
5. Procedures used to determine your salary, benefits, and promotions are applied consistently
6. Procedures used to determine your salary, benefits, and promotions are based on accurate information
7. Your supervisor treats you in a polite manner
8. Your supervisor treats you with dignity
9. Your supervisor treats you with respect
10. Your supervisor is candid in (his/her) communications with you
11. Your supervisor explains procedures thoroughly
12. Your supervisor communicates details of procedures in a timely manner

APPENDIX C: MATERIALS USED IN STUDY 3

Job ads (version 1)

Company A

Job Description:

The position of Insurance Claims Clerk is available. Responsibilities include entering claims information into database systems, preparing insurance claim forms and review them for completeness, calculate amount of claim, post or attach information to claim file, and transmit claims for payment or further investigation.

Our culture:

- Customer service
- Innovation
- Performance-based recognition
- Career advancement

Company B

Job Description:

As an Insurance Claims Clerk, you will be responsible for processing claims documents, including receiving, reviewing, and cataloging the data into the software. Further, you will be responsible for calculating the claim amounts, and authorize payments or require additional information.

Our culture:

- Customer commitment
- Challenge the status quo
- Respect for people
- Concern for each individual employee

Job ads (version 2, with counterbalanced job descriptions and filler values)

Company A

Job Description:

As an Insurance Claims Clerk, you will be responsible for processing claims documents, including receiving, reviewing, and cataloging the data into the software. Further, you will be responsible for calculating the claim amounts, and authorize payments or require additional information.

Our culture:

- Customer commitment
- Challenge the status quo
- Performance-based recognition
- Career advancement

Company B

Job Description:

The position of Insurance Claims Clerk is available. Responsibilities include entering claims information into database systems, preparing insurance claim forms and review them for completeness, calculate amount of claim, post or attach information to claim file, and transmit claims for payment or further investigation.

Our culture:

- Customer service
- Innovation
- Respect for people
- Concern for each individual employee

Intention to apply (developed for this study)

Now, imagine that you can only apply to one of these job positions. Which one would you choose? [Company A / Company B]

Organizational attractiveness (adapted from Highhouse et al., 2003):

Please indicate to what extent you agree with the following statements:

1. For me, Company A would be a better place to work than Company B.
2. Company A is more attractive to me than Company B as a place for employment.
3. I am more interested in learning more about Company A than Company B.
4. A job at Company A is more appealing to me than Company B.

Person-organization fit (adapted from Judge & Cable, 1996):

Please indicate to what extent you agree with the following statements:

1. I feel my values “match” or fit Company A [B] and employees in this organization.
2. My values match those of employees in Company A [B].
3. The values and “personality” of Company A [B] reflect my own values and personality.

APPENDIX D: MATERIALS USED IN STUDY 4

Trust in supervisor (adapted from Mayer & Davis, 1999)

Considering the promotion decision situation, how much do you agree with the following sentences about your supervisor?

1. If I had my way, I wouldn't let my supervisor have any influence over issues that are important to me. (R)
2. I would be willing to let my supervisor have complete control over my future in this company.
3. I really wish I had a good way to keep an eye on my supervisor. (R)
4. I would be comfortable giving my supervisor a task or problem which was critical to me, even if I could not monitor his actions.

APPENDIX E: MATERIALS USED IN STUDY 5

Interpersonal justice (adapted from Colquitt, 2001)

As your supervisor has interacted with you, to what extent have they...

1. Explained decisions respectfully?
2. Communicated politely?
3. Treated you with dignity?

Trustworthiness dimensions (adapted from Mayer & Davis, 1999)

How much do you agree with the following sentences about your supervisor?

- **Benevolence**

1. My supervisor is very concerned about my welfare.
2. My needs and desires are very important to my supervisor.
3. My supervisor really looks out for what is important to me.

- **Ability**

1. My supervisor is very capable of performing its job.
2. My supervisor has much knowledge about the work that needs doing.
3. I feel very confident about my supervisor's skills.

- **Integrity**

1. I never have to wonder whether my supervisor will stick to its word.
2. My supervisor's actions and behaviors are not very consistent. (R)
3. Sound principles seem to guide my supervisor's behavior.

Emotion regulation goals (Lang & Carstensen, 2002)

Please indicate how important you consider each of the following plans or goals, at the present time.

1. Be autonomous in my feelings.
2. Have control over my feelings.

Generativity goals (Lang & Carstensen, 2002)

Please indicate how important you consider each of the following plans or goals, at the present time.

1. Give my knowledge/experience on to others.
2. Help others to find their purpose in life.

Knowledge acquisition goals (developed for this study):

Please indicate how important you consider each of the following plans or goals, at the present time.

1. Receive good advice on important decisions
2. Be in contact with people who can provide useful information

APPENDIX F: MATERIALS USED IN STUDY 6

Social support received (positive job-related social support; Bowling et al., 2005):

Please indicate to what extent you agree with the following statements about your coworkers:

1. My co-workers talk to me about the good things about our work.
2. My co-workers tell me interesting ideas about performing our jobs.
3. My co-workers talk to me about how this organization is a good place to work
4. My co-workers tell me about the rewarding things about our job.

Social support given (adapted from positive job-related social support; Bowling et al., 2005):

1. I talk to my co-workers about the good things about our work.
2. I tell my co-workers interesting ideas about performing our jobs.
3. In talk to my co-workers about how this organization is a good place to work
4. I tell my co-workers about the rewarding things about our job.

Feedback received (feedback from others; Morgeson & Humphrey, 2006)

1. I receive a great deal of information from my manager and coworkers about my job performance.
2. Other people in the organization, such as managers and coworkers, provide information about the effectiveness (e.g., quality and quantity) of my job performance.
3. I receive feedback on my performance from other people in my organization (such as my manager or coworkers).

Feedback given (adapted from feedback from others; Morgeson & Humphrey, 2006)

1. I provide a great deal of information to my coworkers about their job performance.
2. I provide other people in the organization, such as coworkers, information about the effectiveness (e.g., quality and quantity) of their job performance.
3. I provide feedback to other people in my organization (such as coworkers) on their performance.

In-role performance (Williams & Anderson, 1991):

How frequently do you believe you would engage in the following behaviors at work:

1. Adequately complete assigned duties.
2. Fulfill responsibilities specified in job description.

3. Perform tasks that are expected of me.
4. Meet formal performance requirements of the job.
5. Engage in activities that will directly affect my performance evaluation.
7. Fail to perform essential duties. (R)

Extra-role performance (organizational citizenship Behaviors towards the organization; Lee & Allen, 2002):

How frequently do you believe you would engage in the following behaviors:

1. Attend functions that are not required but that help the organizational image.
2. Keep up with developments in the organization.
3. Defend the organization when other employees criticize it.
4. Show pride when representing the organization in public.
5. Offer ideas to improve the functioning of the organization.
6. Express loyalty toward the organization.
7. Take action to protect the organization from potential problems.
8. Demonstrate concern about the image of the organization.