PSYCHOLOGICAL MECHANISMS THAT AFFECT ECONOMIC DECISIONS TO WORK LONGER

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PSYCHOLOGICAL MECHANISMS THAT AFFECT ECONOMIC DECISIONS TO WORK LONGER

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EDITORIAL
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Editorial: Psychological Mechanisms That Affect Economic Decisions to Work Longer

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Editorial on the Research Topic

Psychological Mechanisms That Affect Economic Decisions to Work Longer

Progressive aging of the Baby Boom generation, early workplace withdrawals and international trends toward longevity place increasing pressure on governments to provide economic solutions. One solution is to promote financial self-sufficiency and shift responsibility from governments to individuals. This involves, in part, abolishing mandatory retirement ages and devising strategies to keep people at work beyond conventional retirement ages. Working longer, when one wants to and can, has been shown to provide psychological benefits such as the ability to remain socially and intellectually connected.

There are also obvious economic benefits, especially for disadvantaged groups such as women, immigrants, and low-wage workers who may be ill-equipped to retire comfortably. There are, however, two sets of competing demands, i.e., balancing the desire and economic demand to work longer within current contemporary workplace designs and the cognitive, physical, and psychological capacities of workers to fulfill these demands.

Scholarship on the psychological mechanisms that underlie economic behavior is crucial to our understanding of how bridge employment opportunities, flexible work options, training for new careers, and starting new businesses might contribute to higher proportions of older workers remaining in the labor market. The expansion of such options is believed to enhance both employer and individual responses to the changing context of aging and work.

Thus, the *psychological mechanisms that affect economic decisions to work longer* was the focus of our special issue. We sought diverse perspectives from around the world illuminating the opportunities and challenges of older workers. We succeeded in securing 11 papers from 14 countries: Australia, Belgium, Brazil, Chile, China, Ecuador, Germany, Italy, Japan, Netherlands, Portugal, Spain, Switzerland, and the United Kingdom. Three themes emerged that potentially inform employment, human resources, and educational practices; customization and adaptation to the workplace; understanding individual differences; and promoting self-insight to improve planning behavior.

Four papers by Yeves et al., Climent-Rodríguez et al., Peters et al., and Sousa et al. point to opportunities within organizations to introduce human resource practices that support older workers. Multi-faceted and complex factors determine the response to working longer and particularly the importance of employability. Yeves et al. investigate the relationship between perceived employability and age on job insecurity and job satisfaction. They find that age plays an important role among employees with high, but not low, perceived employability. Perceived employability by older workers provides little protection from the threat of losing one's job.

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Similarly, Climent-Rodríguez et al. show that losing a job may mean different things across the career cycle, with more pronounced effects at older ages. When older people lose their jobs, they feel it more intensely and over a longer period than do their younger counterparts. Put simply the longer one is out of work, the less a person believes in his or her employability.

Other people's reactions to older workers, along with employment practices and again, perceived employability, matter too. In the paper by Peters et al., a Sustainable Human Resource Management framework is used along with Sustainable Career Development (SCD) to investigate the relationship between age, self-reported employability, and stereotypes relating to older workers' productivity, reliability, and personal adaptability. Negative age-based stereotypes impact self-reported employability, exaggerating the effects of age.

Sousa et al. demonstrate the need for age diverse practices in the workplace that consider age-related changes in skills, preferences, and goals. The authors show that work engagement mediates the association between age-diversity practices and the preference for early or late retirement, and that this is particularly important for those with low work ability.

Together the papers in our first theme inform employment and human resource practices. Specifically, demonstrating the significance of age for employees with high perceived employability, the larger effects of losing one's job at an older age and the impact of negative aged-based stereotypes. Practical implications for organizations include the need for age diverse practices and management, concentrating on the intrinsic factors of older workers, opposing negative age-based stereotyping, creating an inclusive environment, and encouraging career opportunities at all ages.

The second theme encompassing three papers by Hu et al., Caines et al., and Molero et al. emphasize customization of roles and adaption to work environments through job crafting, being self-employed, and managing burnout to maximize working life. Papers by Hu et al., Caines et al., and Molero et al. point to opportunities for employees to interact differently with their environments, to fulfill long-held aspirations and introduce protective factors that make it possible to work longer. The opportunity to design a role that optimizes a person's interests and strengths is intuitively appealing to all workers but particularly older workers who may have a keener sense of what these are. Hu et al. link job crafting behaviors with job-related resources and work engagement. Self-employment is another possible solution for older workers wanting to explore job-crafting beyond traditional organizational boundaries and extend their working life. Caines et al. explore how attitudes to aging, one's future time perspective and perceived support from valued others predicts self-efficacy when opting for self-employment. The longer people think they will live the more likely it is that they will take up self-employment. How well-supported they feel by others to become an entrepreneur helps to determine their own perceived likelihood of success. Even when taking job crafting, self-employment and a strong desire to work for as long as possible into consideration, some occupations are just more susceptible to burnout than others. This is particularly true in those roles with high workloads and emotional labor demands, such as nursing. Strategies to stay at work for longer by nurses susceptible to burn out is the focus of a paper by Molero et al. The authors investigate the relationship between self-efficacy, self-esteem, and burnout. Self-care focusing on improving self-efficacy and self-esteem may provide an insulating effect for jobs with high workloads that otherwise result in burnout.

The papers in our second theme highlight the importance of understanding opportunities for customization of the work environment and adaptation necessary to enable a long, successful work life. Practical implications of these findings involve the need for promoting multilevel job crafting to improve job engagement and tailoring programs to help explore and evaluate self-employment opportunities. Organizations would benefit from developing and creating opportunities for older workers to explore ways of adapting jobs and to consider different ways of working together to maximize working life, satisfaction and well-being.

The third theme includes four papers by Noone et al., Schuabb et al., Topa et al. and Topa and Zacher that explore individual factors accounting for differences in planning behavior, the importance of insight and delivery of interventions at just the right time. Noone et al. emphasizes the need to plan for financial security further ahead to expand options and identifies individual factors that may account for differences in staying at work for longer. Push-pull factors are explored that keep people at work—balancing the individual demographic factors with aspects of work relating to fit and identity. The role of gender, financial pressure, physical health, and caregiving alongside three newer emerging factors: work-life conflict, work centrality, and person-job fit are explored. These factors along with physical health and caregiving are related to on-going workforce participation. Important differences emerge according to gender—caregiving was a reason for men to stay employed whilst for women it was person job fit. Limited financial pressure gave people reporting work-life conflict the option to leave work earlier than those reporting financial pressure.

One other factor associated with the ability to plan ahead is Future Time Perspective. Providing greater insight into Future Time Perspective (FTP) is the focus of the paper by Topa and Zacher who validate the use of a more specific measure of FTP, the Occupational Future Time Perspective in Spain with a local sample. The OFTP has three sub-scales relevant to aging research: perceived remaining time; focus on opportunities; and focus on limitations. Their validation of the measure provides new cohorts with a better understanding of their own behavior while paving the way for researchers to conduct cross-cultural research.

Two of our papers by Schuabb et al., and Topa et al. focus on the timing of skill acquisition in financial money management. Schuabb et al. consider influences on retirement savings and the important roles played by parental influence, retirement goal clarity and retirement planning activity level. Having clear goals about savings is an important intermediator between parental influence and retirement saving, while the amount of retirement saving was determined by retirement activity. Goal clarity imparted by parents from childhood may be necessary to instill values related to long-term planning.

Topa et al. point also to the importance of having a longer-term strategy around saving and management of finances. Their study with younger adults revealed the importance of combining investment advice and cognitive closure (i.e., coming to a clear and decisive opinion) to promote better financial management behavior, in relation to both the urgency of getting knowledge and the permanence of such knowledge.

This third set of papers informs educational practices, emphasizing the requirement for earlier financial security planning, retirement goal clarity, and consideration of parental influence to encourage earlier long-term planning and a smoother retirement transition. On an individual level, providing opportunities for reflection and self-insight might prompt better saving behaviors necessary for long-term financial security, and metacognitive strategies could be taught together with investment advice to improve financial decision making.

We hope that the 11 papers selected for our special edition expand our understanding of factors involved in decisions to work longer and inspire additional research to improve the lives of older people at work.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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ORIGINAL RESEARCH
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Occupational Future Time Perspective: Psychometric Properties of a Spanish Scale

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Occupational future time perspective (OFTP) describes people's perceptions of their future in the work context. In this study, we examined the psychometric properties of a Spanish OFTP scale (OFTP-SP). Data came from two samples of workers in Spain aged between 21 and 62 years (Study 1; *N* = 496) and between 40 and 70 years (Study 2; *N* = 386). In Study 1, we conducted descriptive analyses for the items and exploratory factor analysis. In Study 2, we conducted confirmatory factor analyses (CFA). Convergent validity of the OFTP-SP was examined based on relationships with employees' motivation to continue working and retirement intentions. Results showed that reliability estimates were adequate, and hypotheses regarding the convergent validity for the three factors of the OFTP-SP (i.e., perceived remaining time, focus on opportunities, focus on limitations) were supported. The OFTP-SP is a psychometrically sound measure that can be used in future research on work and aging.

Keywords: occupational future time perspective, motivation to continue working, retirement intentions, late career, retirement

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INTRODUCTION

In the context of demographic, social, and economic changes, many governments are lifting retirement ages or making retirement entry more flexible (Organisation for Economic Co-operation and Development [OECD], 2018). The extension of working lives offers an opportunity for late career development to older workers. At the same time, it has been proposed as a way to retain the knowledge and experience of older workers, and as a promising tool to deal with international trends toward longevity (Sweet et al., 2017). Proactive career management requires individuals to adopt a long-term perspective that allows them to plan and prepare for their occupational future (Mooney et al., 2017). Over the last decade, occupational future time perspective (hereafter, OFTP) has emerged as a relevant construct to predict important work outcomes, such as job satisfaction, work engagement, and performance (Zacher and Frese, 2009, 2011; Zacher, 2013). Despite the growing body of empirical research, a systematic review (Henry et al., 2017), and a recent meta-analysis on OFTP (Rudolph et al., 2018), two caveats should be highlighted. First, most empirical studies were conducted with English-, German-, or Dutch-speaking samples, whereas no research has focused on workers in Spain, nor has a Spanish OFTP scale been developed. Second, the negative association between age and OFTP has been firmly established (Henry et al., 2017; Rudolph et al., 2018), but associations of OFTP with both for motivation to continue working and retirement intentions have so far been neglected.

Socioemotional selectivity theory states that people's perception of time, including length of future time, as well as opportunities and limitations in the future, changes as a function of aging (Lang and Carstensen, 2002; Carstensen, 2006). Therefore, individual differences in future time perspective in the occupational context, or OFTP, could serve as a predictor of people's tendency to pursue longer working engagement, expressed by intentions to delay retirement or motivation to continue working. While some antecedents of motivation to continue working seem to be rather stable, such as personality traits or sociodemographic characteristics, OFTP is more malleable and thus could be explored as an avenue to intervene with the goal of expanding occupational horizons of older workers.

Hence, this paper attempts to achieve two goals: on the one hand, we aim to adapt the OFTP scale for Spanish speaking employees and to test its psychometric properties with workers of different ages in Spain. On the other hand, we explore the convergent validity of OFTP for late career development indicators, that is, motivation to continue working and retirement intentions.

In Spain, the reforms of the Public Pensions System during 2011 and 2013 postponed the legal retirement ages and adopted a pension revaluation index to improve the sustainability of the system. As these changes led to a progressive reduction of the average pension value, estimated about 30% less between 2010 and 2050 (Sánchez-Martín, 2014), research on the factors associated to working longer intentions and behaviors seems be crucial both for individuals and society.

The present study will contribute to our understanding of OFTP among Spanish-speaking workers, as it will make available to researchers an instrument validated in Spanish. At the same time, it will provide evidence of the relationship between OFTP and late career workers' intentions and developmental motivations. Policy makers, companies interested in retaining senior talent, and counseling psychologists need consistent empirical evidence to help employees extend their occupational life in meaningful ways, if they wish to do so (Pitt-Catsouphes et al., 2017).

Late Career Development and OFTP

Late career development is the set of "work-related choices and reactions of people from 50 to 70 years of age and the economic, social, and organizational factors that influence them" (Greller and Simpson, 1999, p. 310). Late career development is subject to multiple influences that operate at the economic, legal, organizational, family, and personal levels (Voelpel et al., 2012). At the personal level, late career development seems directly related to the person's age. However, chronological age shows weak and inconsistent relations with retirement intention and motivations to continue working (Ekerdt et al., 2000). In contrast, the perception of having many years to live, or *future time perspective* (Carstensen, 2006), has been shown to be linked to greater motivation and more desirable work outcomes, regardless of chronological age (Akkermans et al., 2016).

From this perspective, OFTP (Zacher and Frese, 2009) has been proposed as a key variable to understand the career development of older workers. It is defined as a person's perception of his or her future time *in the work context*. Thus, OFTP is a cognitive-motivational characteristic that varies over time and with age (Carstensen, 2006; Cate and John, 2007) and includes three dimensions: perceived remaining time, focus on opportunities, and focus on limitations (Zacher, 2013). The first dimension, perceived remaining time, involves how much time individuals believe is left in the work or employment setting before leaving their working lives. Focus on opportunities includes the perceptions of goals, opportunities, and possibilities still available to the person in the work setting, whereas the focus on limitations focuses on the limitations and constraints in one's work-related future.

Zacher and Frese (2009) adapted six (out of 10) context-free items from Carstensen and Lang (1996) general FTP scale to the work context and provided evidence for the reliability and validity of an OFTP measure with two distinct dimensions: perceived remaining time and focus on opportunities. Specifically, these two OFTP dimensions had internal consistency estimates of greater than 0.80 and differential relationships with demographic, personality, and work characteristics. In a subsequent study, Zacher (2013) adapted all 10 items from Carstensen and Lang (1996) to the occupational context and showed that OFTP can be measured reliably as a higher-order construct with three distinct dimensions: perceived remaining time, focus on opportunities, and focus on limitations. Zacher (2013) provided support for the validity of these three dimensions by showing that they are differentially associated with age, proactive personality, and job search intensity among older job seekers. Further evidence for the three-dimensional structure of the construct comes from a study by Rohr et al. (2017), who also showed that general FTP measured with Carstensen and Lang (1996) scale consists of the three dimensions identified by Zacher (2013). English, German, and Dutch versions of the OFTP scale have been used in empirical research (see Henry et al., 2017). We are not aware of systematic validation efforts of the OFTP scale in other countries. Importantly, we do not assume that OFTP is an emic construct that applies only in one cultural group. Instead, we assume that OFTP is an etic construct that can be applied to working people in all cultures that allow older workers to eventually retire from their work.

Motivation to Continue Working and Retirement Intentions

Among the positive indicators of late career development is the motivation to extend working life beyond the traditional retirement age. This may entail the intention of engaging in bridge employment or in other forms of transitioning into full retirement, such as senior entrepreneurship. In contrast, retirement intentions involve that employees plan to retire sooner than later from their career job. In a qualitative review of the literature on OFTP, Henry et al. (2017) identified 16 published empirical studies that had examined relations between OFTP and these indicators of late career development. For instance, global OFTP was related to lower intention to retire

(r = −0.33), as were focus on opportunities (r = −0.25), and perceived remaining time (r = −0.35; Bal et al., 2015). The dimension focus on opportunities shows the strongest association with the motivation to continue working beyond retirement age (r = 0.18; Zacher and Yang, 2016). On another hand, the dimension perceived remaining time is positively associated with learning motivation (r = 0.32), whereas focus on opportunities is related to related to achievement motivation (r = 0.32; Kooij and Zacher, 2016). The subsequent meta-analysis of Rudolph et al. (2018) extended the number of primary studies and confirmed the consistency of the relations between OFTP and late career development indicators.

Even though the number of empirical studies is still limited, the evidence is promising, as OFTP seems to interact with other variables, influencing employee outcomes that can promote late career development, such as the motivation to continue working, the decrease of intentions to retire, and the intensity of older people's job search (Zacher, 2013).

In sum, we expect that the Spanish OFTP scale consists of three dimensions, perceived remaining time, focus on opportunities, and focus on limitations. Moreover, we expect these dimensions of OFTP to be positive related to motivation to continue working, and negatively related to retirement intentions.

MATERIALS AND METHODS

Ethics Statement

The Institutional Ethics Committee of the first author's university (National Distance Education University, UNED) approved this research on February 19th, 2018.

Participants

We recruited two samples for this study. The first one (Sample 1) comprised workers in Spain aged between 21 and 62 years (N = 496), and the second one (Sample 2) included workers in Spain over 40 and under 65 years (N = 386). In Sample 1, mean age was 42.16 (SD = 9.8), 58.5% were female, and mean job tenure was 13.2 years (SD = 9.9). In Sample 2, mean age was 49.98 (SD = 6.7), 51.6% were male, and mean job tenure was 17.3 years (SD = 11.2). Regarding educational levels, in Sample 1, 7.1% had primary education, 7.9% secondary education, 24.2% vocational training, and 60.9% a university degree. In Sample 2, 19.4% had primary education, 11.4% secondary education, 14.8% vocational training, and 54.4% a university degree. Concerning occupational fields, in Sample 1, 1% worked in banking and finances, 18.1% in industry, 0.4% in telecommunications, and 80.4% in the services sector. In Sample 2, 9.6% worked in banking and finances, 24.9% in industry, 8.3% in telecommunications, 35.5% in education and health, and 80.4% in the services sector. Related to occupational categories, in Sample 1, 5.6% were managers, 12.1% were middle managers, and 73.3% were professional workers. In Sample 2, 13.5% were managers, 23.5% middle managers, and 49% were professional workers.

Measures

All the scales were rated on 5-point Likert scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Occupational Future Time Perspective

The OFTP scale (Zacher and Frese, 2009; Zacher, 2013), translated to Spanish, was used in this study. The instrument included ten items that were based on the future time perspective scale developed by Carstensen and Lang (1996) and Lang and Carstensen (2002) and adapted to the employment context by Zacher and Frese (2009). Previous exploratory factorial analyses (Zacher, 2013) confirmed a three-factor solution (i.e., perceived remaining time, focus on opportunities, and focus on limitations). Examples of items are: "My occupational future is filled with possibilities" and "There is plenty of time left in my occupational life to make new plans."

Motivations to Continue Working

This variable was assessed with three items from Armstrong-Stassen (2008) scale, which were translated to Spanish by a bilingual translator to reflect a desire to continue working after retirement age. The questionnaire has also been adapted by the research group from the original version, which focused on working for the same organization, in order to express intention to continue working in a more general sense. The items are "Barring unforeseen circumstances, I would remain working as long as possible," "I expect to continue working as long as possible after my retirement age," and "If I were completely free to choose, I would prefer to continue working after my retirement age." The reliability in our second study was 0.95.

Retirement Intentions

Based Adams and Beehr (1998), this variable was assessed with four items, which were translated from English to Spanish by a bilingual translator. The first item focuses on pension acceptance, the second, third and fourth reflect plans, desires, and expectations of retiring soon. Specifically, the items are: "I would like to retire in the near future," "I expect to begin collecting a pension in the near future," "I plan to retire in the near future," and "I expect to retire in the near future." The reliability in our second study was 0.88.

Sociodemographic data: Age (in years), gender (1 = Male, 2 = Female), education (1 = primary, 2 = secondary, 3 = vocational training, 4 = university degree), professional category (1 = managers, 2 = middle managers, 3 = professional workers, 4 = unqualified workers), and job tenure (in years) were measured with single items.

Procedure

The translation and adaptation procedure were performed according to the guidelines suggested by Beaton et al. (2000), and included the following steps: translation and adaptation, synthesis, back-translation, and committee review. During all the phases, the bilingual translators were informed that the goal was to obtain a cross-cultural adaptation of the questionnaire. The first forward translation of the OFTP into Spanish was independently performed by two bilingual professionals; and

the two translations were compared and discussed both by the two professionals and the research team to achieve the final version of the scale. Using the first version of the Spanish OFTP, two independent back-translations into English were performed. Subsequently, the research team analyzed the discrepancies with the original OFTP and resolved them by consensus, thereby creating the final OFTP-SP version of the scale.

Data collection for the first study (Sample 1) was carried out by means of questionnaires distributed in different organizations by collaborators of the research team in exchange for practical academic credits, and after receiving precise instructions to homogenize the administration of the tests. Participants were informed of the goals of the study, and the anonymity of the data collected. After they had expressed their consent, they completed the workbook containing the diverse scales of the study. For the second study (Sample 2), the research group e-mailed twelve firms to propose a broad study on human resources management. Ten firms responded and were then contacted by researchers to explain the criteria for the inclusion of participants (current employees aged above 40 years). Only eight organizations finally took part in the study. From the organizations, 489 current employees aged 40 or over received the questionnaire, a letter explaining the purpose of the study and the data collection procedure, as well as an envelope to return the survey. We collected 391 completed questionnaires (response rate of 80.5%).

Data Analysis

First, to prevent the problem of missing data, collaborators of the research team have been instructed about carefully collecting data and monitoring missing data during the course of the study. Hence, sample 1 has no missing data. Regarding sample 2, as the proportion of missing data were less than 5%, Little's MCAR (missing completely at random) test has been applied. The analysis showed that missing data values were completely at random ($\chi^2 = 18.822$; $df = 16$, $p = 0.278$). In the following analyses, missing data were replaced by EM (expectation maximization) imputation in SPSS. Second, we conducted descriptive analysis for the items considering their central tendency and deviation measures (mean and standard deviation) and also their variability, by means of the Skewness and Kurtosis values. Skewness is considered an assessment of symmetry, while kurtosis is described as measure of whether the data are distributed relative to a normal curve. Third, we carried out an exploratory factor analysis (EFA) with Sample 1, using SPSS 25; and confirmatory factor analysis (CFA) with Sample 2, using Amos 25. We tested a model with three intercorrelated factors and then a model with one factor, which showed poorer fit to the data. Then, we tested the convergent validity by examining relationships of OFTP with retirement intentions and general motivation to continue by fitting a Structural Equation model using AMOS 25.

RESULTS

Descriptive Statistics

Table 1 shows the descriptive statistics for the 10 items of the OFTP-SP. Means, standard deviations, skewness, and kurtosis for each item are included. The values for asymmetry and kurtosis between −2 and +2 are considered acceptable in order to prove normal univariate distribution (George and Mallery, 2010). All values of the OFTP-SP items were below 1 for skewness and for kurtosis.

Exploratory and Confirmatory Factor Analyses

First, we analyzed the psychometric properties of the OFTP-SP scale in Sample 1. In several studies, total-item correlation serves as a criterion for initial assessment and refinement.

TABLE 1 | Descriptive statistics for OFTP-SP items Sample 1 (*N* = 496).

Items (English version)	Items (Spanish version)	*M*	*SD*	Skewness	Kurtosis
(1) Many opportunities await me in my occupational future.	(1) Me esperan muchas oportunidades en mi futuro laboral.	2.98	0.999	−0.110	−0.513
(2) I expect to set many new goals in my occupational future.	(2) Espero fijarme muchos nuevos objetivos en mi futuro laboral.	3.43	0.974	−0.412	−0.247
(3) My occupational future is full of possibilities.	(3) Mi futuro laboral está lleno de posibilidades.	3.13	0.980	−0.179	−0.302
(4) I could do whatever I like in my occupational future.	(4) Podría hacer lo que quisiera en mi futuro laboral.	2.83	0.919	0.002	−0.136
(5) I only have limited possibilities in my occupational future.	(5) Tengo solo posibilidades limitadas en mi futuro laboral.	2.97	0.924	−0.041	−0.495
(6) I have lots of time to make new plans for my occupational life.	(6) Queda mucho tiempo en mi vida laboral para hacer nuevos planes.	3.29	0.912	−0.324	−0.138
(7) Most of my occupational life lies before me.	(7) Tengo por delante de mí la mayor parte de mi vida laboral.	3.19	0.996	−0.157	−0.510
(8) My occupational future seems infinite to me.	(8) Mi futuro laboral me parece infinito.	2.65	0.892	0.243	−0.199
(9) I have the feeling that my occupational time is running out.	(9) Tengo la sensación de que mi tiempo laboral se me está acabando.	2.36	0.951	0.592	0.146
(10) As I get older, I have the feeling that my occupational time is limited.	(10) A medida que me hago mayor, tengo la sensación de que mi tiempo laboral es limitado.	2.71	1.010	0.172	−0.596

Following the criteria of Loiacono et al. (2002), items found to have low correlations (less than 0.40) with the total score were removed. All items showed an item-total correlation ranging from 0.74 to 0.50, except for Item 5, which showed a value of 0.34 and, according to Nunnally and Bernstein (1994) criteria, was excluded (see also Zacher, 2013). EFA was conducted with principle axis factoring and direct oblique (Oblimin) rotation. Based on previous research that examined the three dimensions of FTP and OFTP (i.e., perceived remaining time, focus on opportunities, focus on limitations; see Zacher, 2013; Rohr et al., 2017), we expected the dimensions of OFTP to be moderately to highly correlated and, therefore, used oblique rotation. The Kaiser-Meyer-Olkin (KMO) index (0.84) and Bartlett's sphericity test [$\chi^2(45, N = 496) = 2518.7$, $p < 0.000$] indicated the appropriateness of EFA. The KMO criterion supported the three-dimensional solution, with eigenvalues >1. The four items loading on Factor 1 (*focus on opportunities*) reflected "individuals' perceptions of their remaining goals, opportunities, and possibilities in the employment context" (Zacher, 2013, p. 1142). The three items included in Factor 2 (*perceived remaining time*) referred to the perceptions of "how much time an individual believes he or she has left in the occupational and employment context before exiting the labor market" (Zacher, 2013, p. 1142). Finally, the two items loading on Factor 3 (*focus on limitations*) included "individuals' perceptions of the constraints, limitations, and restrictions in the employment context" (Zacher, 2013, p. 1142). All items loaded above 0.40 on their factor and below 0.30 on the other factors, as shown in **Table 2**.

Item 5, which showed very low factor loadings on the three factors, has been excluded in the following calculations.

To test the fit of the three-factor solution obtained by EFA, we conducted CFA with Sample 2, using the maximum likelihood procedure. We used the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI), the incremental fit index (IFI), and the Tucker-Lewis index (TLI), which should all exceed 0.90. Additionally, and the root mean square residual (RMR) should be below 0.08. Our results met all the requirements to conclude that the three-dimensional theoretical model had a good fit: $\chi^2(24, N = 386) = 91.3232$, GFI = 0.9510, AGFI = 0.9082, CFI = 0.9674, IFI = 0.9675, TLI = 0.9510, RMR = 0.0563, RMSEA = 0.0854. **Figure 1** shows the standardized estimates for the model.

Considering competitive hypotheses is an important phase of gathering evidence to support the internal structure of a scale. For this purpose, we compared the fit of the three-factor model [$\chi^2(24, N = 386) = 91.3232$, GFI = 0.9510, AGFI = 0.9082, CFI = 0.9674, IFI = 0.9675, TLI = 0.9510, RMR = 0.0563; RMSEA = 0.0854] with that of a single-factor model [$\chi^2(27, N = 386) = 446.9273$, GFI = 0.7606, CFI = 0.7964, NFI = 0.7870, IFI = 0.7973, TLI = 0.7285, RMSEA = 0.2010] for the same data. Differences between models were significant ($\Delta\chi^2 = 355.6$, $p < 0.001$); therefore, we rejected the most parsimonious model and supported the three-factor solution.

Reliability

In Sample 1, Cronbach's alpha reliability coefficients of the three subscales were adequate (ranging from 0.80 to 0.88, see **Table 2**), despite their reduced number of items. These values were confirmed in Sample 2 (ranging from 0.90 to 0.81).

Interrelations of the Scales

The intercorrelations between the OFTP-SP subscales were moderate in size. Intercorrelations between the subscales in Sample 1 were: focus on opportunities-perceived remaining time ($r = 0.58$), focus on opportunities-focus on limitations ($r = -0.37$), and perceived remaining time-focus on limitations ($r = -0.49$). In Sample 2, intercorrelations were: focus on

TABLE 2 | OFTP-SP: factor loadings for items Sample 1 (*N* = 496).

Items (English version)	Items (Spanish version)	Factor		
		1	2	3
(1) Many opportunities await me in my occupational future.	(1) Me esperan muchas oportunidades en mi futuro laboral.	0.791	0.116	0.057
(2) I expect to set many new goals in my occupational future.	(2) Espero fijarme muchos nuevos objetivos en mi futuro laboral.	0.612	0.209	−0.015
(3) My occupational future is full of possibilities.	(3) Mi futuro laboral está lleno de posibilidades.	0.939	0.020	0.031
(4) I could do whatever I like in my occupational future.	(4) Podría hacer lo que quisiera en mi futuro laboral.	0.737	0.073	0.046
(5) I only have limited possibilities in my occupational future.	(5) Tengo solo posibilidades limitadas en mi futuro laboral.	−0.347	0.137	0.250
(6) I have lots of time to make new plans for my occupational life.	(6) Queda mucho tiempo en mi vida laboral para hacer nuevos planes.	0.123	0.705	−0.060
(7) Most of my occupational life lies before me.	(7) Tengo por delante de mí la mayor parte de mi vida laboral.	0.008	0.850	−0.145
(8) My occupational future seems infinite to me.	(8) Mi futuro laboral me parece infinito.	0.204	0.447	−0.049
(9) I have the feeling that my occupational time is running out.	(9) Tengo la sensación de que mi tiempo laboral se me está acabando.	0.067	−0.245	0.734
(10) As I get older, I have the feeling that my occupational time is limited.	(10) A medida que me hago mayor, tengo la sensación de que mi tiempo laboral es limitado.	−0.005	−0.040	0.814
Explained variance of factor (total 60.8)		44.1%	6.3%	10.3%
Cronbach's alpha		0.88	0.81	0.79

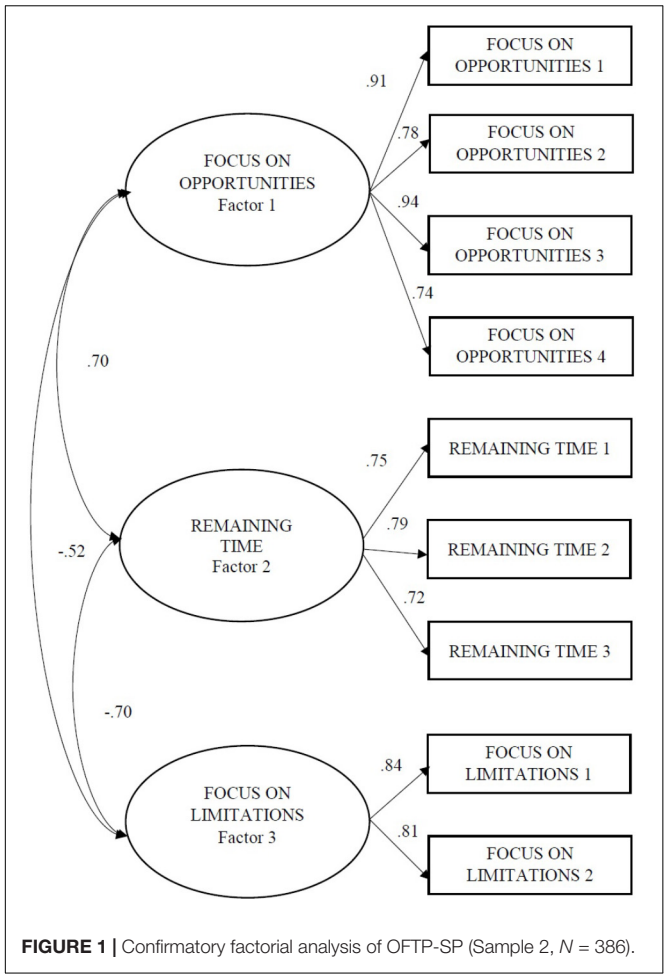

FIGURE 1 | Confirmatory factorial analysis of OFTP-SP (Sample 2, *N* = 386).

opportunities-perceived remaining time (r = 0.63), focus on opportunities-focus on limitations (r = −0.47), and perceived remaining time-focus on limitations (r = −0.56).

We further tested the scale's validity with CFA (Sample 2) following Fornell and Larcker (1981) recommendation. The analysis of average variance extracted (AVE) reflects the total quantity of variance of the indicators tapped by the latent construct, and recommended values should be higher than 0.50. In this study, the AVE for Factor 1 (focus on opportunities) was 0.77; for Factor 2 (perceived remaining time), it was 0.71; and for Factor 3 (focus on limitations), it was 0.84.

To address the limitations of Cronbach's alpha coefficient, CFA factor loadings can be used to provide a more accurate estimation of reliability through composite reliability (CR), developed by Werts et al. (1974). Scores should be higher than 0.70. In this study, the CR value was 0.93, 0.88, and 0.91 for Factors 1, 2, and 3, respectively.

To assess discriminant validity between the constructs, the dominant approaches are Fornell and Larcker (1981) criterion and the examination of cross-loadings. But recently, some doubts have emerged about these approaches, and Henseler et al. (2015) recommended more rigorous methods, such as the Heterotrait-Monotrait (HTMT) matrix of correlations.

Following the Fornell-Larcker procedures, the square root of the AVE should be higher than the correlation between constructs. Our results showed that the square root of the AVE was 0.88, 0.84, and 0.92 for Factors 1, 2, and 3, respectively. In view of these data, the constructs assessed in the model have discriminant validity, considering that the square root of the AVE values largely exceeds the intercorrelation among constructs. Moreover, in the present study, applying the threshold criterion (Gold et al., 2001), which suggests that all the values of the HTMT matrix should be lower than 0.90, it is concluded that the constructs assessed in the model have discriminant validity, as **Table 3** shows.

Additionally, if we apply the most restrictive criterion of Kline (2011), which states that all the values included in the confidence interval should be lower than 0.85, all the constructs assessed in the model showed adequate discriminant validity. Lastly, we explored the nomological network of the OFTP-SP, examining the correlation matrix and conducting structural equation modeling. We found that the three factors of the OFTP-SP were significantly associated with the motivation to continue working and retirement intentions in the sample of workers over 40 years old (see **Table 4**).

Next, we tested the convergent validity of the three OFTP-SP factors for motivation to continue working and retirement intentions, using the maximum likelihood procedure. The model presented a good fit: $\chi^2(95, N = 386) = 379.3899$, GFI = 0.9002, CFI = 0.9365, NFI = 0.9175, IFI = 0.9369, TLI = 0.9198, RMSEA = 0.0882. The critical ratios associated with some paths were not statistically significant (focus on limitations → motivation to continue working; perceived remaining time → motivation to continue working; focus on opportunities → retirement intentions). Model fit indicators, such as GFI, CFI, the normed fit index (NFI), IFI, and TLI should all be close to 0.90. Additionally, and the root mean square error of approximation (RMSEA) should be below 0.0882. Our results met all the requirements to conclude that the fit was adequate. **Figure 2** shows the standardized estimates for the model.

DISCUSSION

There is a growing consensus about the role of future time perspective for people's attitudes and behaviors, both in the work setting and in life in general (Kooij et al., 2018). Reviews of the literature on OFTP (Henry et al., 2017; Rudolph et al., 2018) confirm the convergent validity of the OFTP for motivation to continue working, retirement intentions, as well as task and contextual performance. In fact, the studies show that OFTP has predictive validity for attitudes and performance even after controlling for the influence of other constructs related to adaptation to aging, such as selection, optimization, and compensation strategies (Rudolph et al., 2018). Despite this, empirical studies have not analyzed these relations among workers in Spain. Specifically, to our knowledge, there is no study that has adapted the OFTP scale to Spanish language or analyzed its psychometric properties with workers in Spain. As the literature shows that OFTP is a relevant predictor associated

TABLE 3 | Heterotrait-Monotrait ratios and CI bias corrected (2.5 and 97.5%).

	HTMT ratio	2.5% CI	97.5% CI
(1) Focus on opportunities → Focus on limitations	0.54	0.44	0.649
(2) Remaining time → Focus on limitations	0.70	0.613	0.784
(3) Remaining time → Focus on opportunities	0.75	0.686	0.809

TABLE 4 | Pearson correlation matrix [above the diagonal, Sample 1 (N = 496), below the diagonal, Sample 2 (N = 386)].

	1	*2*	*3*	*4*	*5*
(1) Focus on opportunities	*0.90*	0.58**	−0.37**		
(2) Perceived remaining time	0.64**	*0.80*	−0.49**		
(3) Focus on limitations	−0.47**	−0.56**	*0.81*		
(4) Motivation to continue working	0.32**	0.22**	−0.14**	*0.95*	
(5) Retirement intentions	−0.31**	−0.33**	0.38**	−0.54**	*0.88*

**$p < 0.01$; values in italics in the diagonal are Cronbach's alphas.*

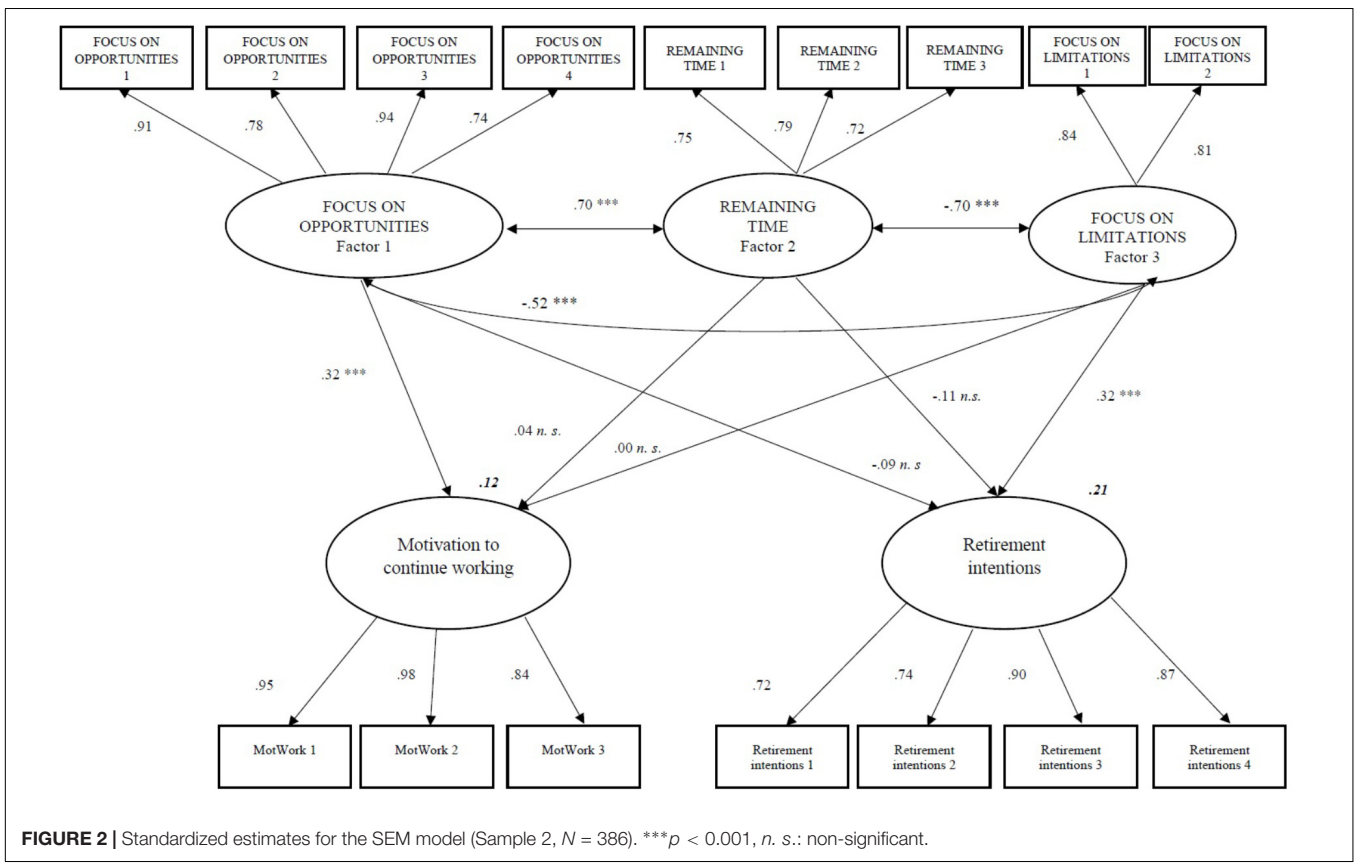

FIGURE 2 | Standardized estimates for the SEM model (Sample 2, N = 386). ***$p < 0.001$, *n. s.*: non-significant.

with planning for and the decision to retire or to continue working (Topa et al., 2018), this analysis seems relevant.

In comparison with the original version in English, the version OFTP-SP presents adequate psychometric properties. The findings show that it is a valid and reliable tool to assess older people's cognitive and affective expressions about their perceived remaining time in relation to their work. In addition, the present set of data provides evidence of the stability of its factor structure in different samples. This Spanish version would be useful for other Spanish-speaking populations, such as North, Central, and South America, even though cross-cultural research should be conducted in order to test the stability of its psychometric properties across countries.

The findings of the structural equation analysis reveal that the motivation to continue working beyond retirement is positively related to focus on opportunities, whereas the other two dimensions were not significantly related to this attitude. However, perceived remaining time and focus on limitations were associated with retirement intentions. However, we acknowledge that OFTP only accounts for a relatively small proportion of the

variance in the two outcomes, as these attitudes and motivations are influenced by a multiplicity of antecedents at the societal, professional, organizational, and family level.

Concerning the size and representativeness of the samples in this study, the limitations of these data are obvious, especially regarding the sampling procedure used. Moreover, all the data proceed from self-reports, which can include a source of uncontrolled error from the common variance. However, as OFTP-SP is focused on subjective perceptions of occupational opportunities, limitations, and remaining time at work, deviations from external criteria would not necessarily indicate that it is invalid. In summary, we conclude that the available instrument could be used to expand research on OFTP and late career development among Spanish-speaking populations, and empirically support further theoretical development. In this regard, future analyses could expand empirical research to establish practical implications for subgroups of workers who show lower levels of OFTP. Subsequently, practical interventions aimed at improving future time attitudes among older workers could be developed (Hajek et al., 2018), for instance, as a way to reduce time to return to work among employees suffering from work-related stress (Björk et al., 2018).

Even though the number of empirical studies is still limited, the evidence is promising, as OFTP appears to interact with other variables, influencing behaviors that can promote late career development, such as older people's job search intensity (Zacher, 2013). Finally, the possible cultural variations of OFTP should also be explored because temporal orientation is a dimension that characterizes and differentiates cultures, as noted by (Laureiro-Martinez et al., 2017).

ETHICS STATEMENT

This study has been approved by the Institutional Ethics Committee of the National Distance Education University (UNED). Written informed consent has been obtained from all participants.

AUTHOR CONTRIBUTIONS

GT and HZ designed the research. GT collected and analyzed the data. GT and HZ wrote and revised the manuscript.

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Financial Management Behavior Among Young Adults: The Role of Need for Cognitive Closure in a Three-Wave Moderated Mediation Model

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This three-wave study aims to explore whether the impact of investment literacy on the financial management behavior is mediated by investment advice use and moderated by the need for cognitive closure. A total number of 272 financially independent adults, under 40 years, completed questionnaires at three different times with 3-month intervals. The results reveal that employees with more investment advice use and characterized by high need for cognitive closure show a higher level of financial management behavior, in relation to both the urgency (seizing) of getting knowledge and the permanence (freezing) of such knowledge. The present study contributes to better understand how and when investment literacy drives well-informed and responsible financial behavior. According to these results, interventions to improve financial behavior should focus on the combination of investment advice use and metacognitive strategies used by individuals to make financial decisions.

Keywords: financial management behavior, investment literacy, investment advice use, need for cognitive closure, retirement, retirement planning

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INTRODUCTION

Why are some people more efficient in their financial behaviors than others? Financial management is a complex set of behaviors and decisions that can change as a function of the importance and difficulty of implementing the behavior, as well as of people's capabilities, skills, and opportunities to perform such behaviors. The undesirable short-, mid-, and long-term consequences of inadequate financial management behavior not only affect individuals, but also their household, and ultimately could produce a wide range of unwanted events on the entire society (Fenton et al., 2016). For instance, inadequate financial behaviors can lead to temporary or chronic debts, inability to pay utility bills or filing for bankruptcy and such behaviors result from economic factors together with psychological ones.

Financial literacy has been defined as "the ability and confidence to use one's own financial knowledge to make financial decisions" (Huston, 2010, p. 307). This concept not only concerns individual investors but also professional ones working in companies that manage money. It is in fact important not only to establish a long-term financial plan but also to know, and to have, financial alternatives in which to invest money or to save it. Financial planning is a very important knowledge and skill considering that individuals live longer and have to save for their old age, when they are no longer working.

Recent studies investigated the impact of financial literacy on various financial behaviors, like loans, mortgages, or retirement planning. The fact that financial literacy is rather low, even across well developed countries, is a critical factor toward well-informed financial decision making and behaviors. Hence, financial behavior management is a topic of interest to economists, social workers and policy makers as well.

However, a large-scale analysis of recent data indicated that financial education interventions explain only 0.1% of the variance in financial behaviors. In contrast, financial literacy has a stronger effect on financial behavior when the former is measured rather than manipulated (Fernandes et al., 2014). However, Fernandes et al. (2014) study shows also that financial literacy has less impact on financial behavior when psychological and social variables, often omitted in previous research, are considered. Therefore, this study aims to fill this gap by taking a psychosocial approach and including cognitive, motivational and social factors in the relationship between financial literacy and financial behavior.

Huston (2010) distinguishes two concepts often considered as synonymous: financial literacy and financial knowledge. A successful measure of financial literacy should allow to identify which outcomes are most impacted by a lack of financial knowledge and skill, and, consequently, allow educators to provide knowledge achieve a desired outcome (Huston, 2010).

In addition, as most of the studies have used samples of students, that is, adolescents or people who are still in their early youth, and not yet financially independent, in this study, we will analyze the financial management behavior of young adults who have their own economic income. Economic independence is in fact a key indicator of transition to adulthood (Lee and Mortimer, 2009).

Based on Huston (2010) theoretical model, this work aims to explore predictors, mediators, and moderators of financial management behavior when people have independent economic resources to save for the future. Specifically, in the present study, we argue that it is necessary to consider the mediating role of investment advice use in the relation between investment literacy and financial management behavior among young adults. As Huston (2010, p. 307) stated, "financial literacy is a component of human capital that can be used in financial activities" to increase behaviors that enhance financial wellbeing. Hence, financial knowledge would be translated in behaviors by using available resources "directly related to successfully navigating personal finances" (Huston, 2010, p. 307), as professional investment advisory services. In addition, we propose that need for cognitive closure (hereafter, NCC), an individual dispositional characteristic, moderates the relations between investment advice use and financial management behavior. The moderated mediation analysis that includes both processes will allow us to better understand the variables that facilitate or hinder young adults' financial management behavior.

In summary, this study makes three main theoretical and methodological contributions. First, we investigate if the strong direct relationship between financial literacy and financial behaviors is valid when considering two psycho-social variables that consider conditions and types of individuals showing the financial behaviors. Second, we consider younger adulthood, which is a period of individuals' life-cycle in which many important financial choices start to be made, like buying commodities, a house or setting up a family (Webley et al., 2002). Three, considering what reported by Fernandes et al. (2014), we investigate if the consistent association between financial literacy and financial behavior observed in many cross-sectional studies is observed also when such independent and dependent variables are measured in different moments.

Financial Management Behavior

Financial management behavior is the acquisition, allocation, and use of financial resources oriented toward some goal. Empirical evidence supports that, if families achieve effective financial management, both their economic well-being and their financial satisfaction improve at the long term (Consumer Financial Protection Bureau, 2015). However, financial management behavior is complex and difficult to implement. The supervision of money and expenditure, which includes frugal and careful spending of money, is a useful protection against risky financial practices.

Moreover, financial management behavior may vary between younger and older people. Although the repeated experience and practice of financial activities influence people's skills to manage their finances, empirical evidence seems to support that young people practice fewer basic financial tasks, such as budgeting or regularly planning their long-term savings (Jorgensen and Savla, 2010). Because of this evidence, it is of interest to analyze the antecedents of young adults' financial management behavior.

Investment Literacy

Investment literacy implies, firstly, an accumulation of knowledge about personal concepts and financial products, obtained by means of education or direct experience. Secondly, it includes a series of abilities and self-confidence to effectively apply the knowledge to the management of one's own finances. Different empirical works have shown the consistent relations between the specific financial knowledge, the probability of saving, the effectiveness of investment strategies, and saving behaviors in general (Jorgensen and Savla, 2010). Hence, considering we measured our variables at three points in time, we propose that:

Hypothesis 1: Investment literacy at time 1 (hereafter T1) will be positively related to financial management behavior at time 3 (hereafter T3).

Investment Advice Use

The use of financial consultants has been proposed as a useful support to financial decisions and as a substitute of financial knowledge and capacity for individuals and family with lower resources. However, Collins (2012) shows that financial literacy, and search and use of professional advice, are not only distinct and complementary processes, but also positively related, because results show that individuals with higher incomes, better educated and with more financial literacy are the most likely to search and use financial advice. Individuals that are less knowledgeable tend to overestimate their abilities and are

unable to recognize their limited financial competences (Kruger and Dunning, 1999). However, other studies show that the use of financial consultants seems to have a direct influence in guiding individuals and families toward more profitable investments (Joo and Grable, 2004). In the light of this evidence, we argue that individuals financially competent, aware of the complexities of the economic field, may search for, understand and then implement the advices provided by financial consultants and, consequently, show good financial management behaviors. Accordingly, we propose that:

Hypothesis 2: Investment advice use at time 2 (hereafter T2) will mediate the relationship between investment literacy at T1 and financial management behavior at T3.

Need for Cognitive Closure

Although some empirical studies have addressed the influence of personality on earning and saving, most of them have focused on psychological biases, self-control problems, procrastination (Rahimi et al., 2016), future time perspective and risk tolerance (Pak and Mahmood, 2015). However, other studies have called attention to the influence of relatively stable individual differences in information processing and complex decision making, such as the NCC (Webster and Kruglanski, 1994).

Need for cognitive closure refers to the individual necessity of arriving to a clear and definitive opinion, or answer to a problem, and particularly any opinion or answer rather than experiencing confusion, ambiguity or inconsistency (Webster and Kruglanski, 1994). Empirical research reports significant differences between people with high and low NCC; such differences concern the amount of information they can process, the intensity of that information, the rules employed in decision-making processes, and the self-confidence on the decisions that they reached (De Dreu et al., 1999; Szumowska and Kossowska, 2017). Due to this characteristic, people with low NCC are more available to consider complex information that is difficult to process, such as financial information. They are also concerned about the loss of information and more oriented toward the accuracy of the response than to the speed with which it is reached. As a consequence, these people tend to consider more information and decide more slowly, to be more open minded and more creative. In contrast, people with high NCC are more likely to focus on information they can process easily, to reject the more complex or even incomplete one (Livi et al., 2015), and less likely to consider new evidence and update their investments when changes in market uncertainty appear (Disatnik and Steinhart, 2015).

Need for cognitive closure has been described as characterized by two different tendencies: the tendency of the urgency to achieve knowledge (*Seizing*) and the tendency to retain permanently that knowledge (*Freezing*) (Roets et al., 2006). People with high NCC have a pressing desire to achieve closure and to retain it permanently. Thus, these people tend to limit the quantity of information to be processed in order to facilitate decision-making and then to retain and perpetuate the information on which they have based this judgment.

This pattern of information processing has been shown in a broad array of situations related to information processing and decision-making (Dolinski et al., 2016), such as consumer purchasing choices, attitudes about complex technological products, suppliers' purchasing decisions to manage business supply chains, or helping behavior, among others. Due to the fact that financial management behavior includes processing of complex information and the anticipation of needs with a high degree of uncertainty, we argue that individuals with high NCC will consider a limited amount of information provided by the financial consultant, and particularly information that solve their immediate needs; will revise or modify such information with some reluctance, and all this will result in a less efficient financial management behavior. In contrast, we expect that low NCC remain open to information provided by the consultant and, through the elaboration, integration and revision of such information, they will be more consistent and efficient in the management of their financial behavior. Accordingly, in the present study, we propose that:

Hypothesis 3: The relationship between investment literacy at T1 and financial management behavior at T3, mediated by investment advice use at T2, will be moderated by both NCC dimensions (seizing and freezing) at T1. Specifically, we expect the relationship between investment advice use (T2) and financial management behavior (T3) to be weaker for individuals with high levels of both NCC dimensions (T1) than for individuals with low levels of both NCC dimensions (T1).

MATERIALS AND METHODS

Ethics Statement

The Institutional Ethics Committee of the first and second authors' university (National Distance Education University, UNED) approved this research on May 4th, 2016.

Participants and Procedure

This study, with a three-wave design, was carried out with a sample of young, non-student, Spanish adults, who completed the questionnaires at three different moments (T1, T2, and T3), with an interval of 3 months between each one. Following Taris and Kompier (2016) suggestions, and due to the limited longitudinal studies available on these factors, the real time lag between these factors is unknown; considering literature and the processes under examination, we retain the 3 months as an appropriate period to explore such relations. Also, because the time-lag design contributes to control and counteract the common method variance (Podsakoff et al., 2003). The T1 measurement was carried out in January–February. Participation in the study was voluntarily, and potential participants were informed about the anonymity, and all subjects gave their informed consent for inclusion before they participated in the study. The only inclusion criteria in the study were being younger than 40 years of age and having a paid job (being full time or part time active workers). A total 500 people were invited to participate at T1, but we only obtained 390 responses (78%

response rate), and 304 responses at T2. At T3, the sample was reduced to 272 respondents, who are included in this study. The mean age of the participants at T1 was 26.3 years (SD = 4.9), and at T3 mean age was 26.8 years. Men made up 40.4% of the sample. Average job seniority was 9.9 years (SD = 6.6). In terms of educational level, 57% of the sample had received a university or similar level of education, 29% finished the Secondary School, and 11% had received only basic education. Professionally, 63.2% of participants were employees, 22.8% were middle managers, and full-time workers accounted for 91.9% of the sample, and the rest were employed part-time.

Instruments

Financial Management Behavior

Financial management behavior was assessed with the *Financial Practices Scale* (Loibl et al., 2006), consisting of seven items that measure the probability of the participants' adopting positive practices of financial management behaviors. The Likert-type response scale ranged from 1 (*unlikely*) to 5 (*very likely*). Examples of some items are: "Pay your bills on time every month"; "Start saving for emergencies"; "Develop a written plan for expenses"; "Have more organized records of payments." The authors recommend adding the scores to create a global measure of financial management behavior. Reliability was α = 0.78 in the present study.

Investment Literacy

Investment literacy was appraised with the *Financial Knowledge Scale*, of Joo and Grable (2004). This 10-item scale was designed to assess investors' financial literacy. Higher scores indicate more knowledge. The original dichotomic response scale was transformed into a Likert-type response scale ranging between 1 (*strongly disagree*) and 5 (*strongly agree*). Examples of some items are: "Both employee and employer contribute to Social Security"; "Over a 20-year period, one is more likely to win than to lose money in the stock market"; "Interest paid on a credit card is deducted from taxes" (reversed score). Reliability was α = 0.81 in the present study.

Investment Advice Use

Investment advice use was assessed using the *Investment Advice Use Scale* of Li et al. (2002) which contains eight items. The original four-point response scale, which ranges between 1 (*strongly disagree*) and 4 (*strongly agree*), was adapted to a five-point Likert-type format, with an intermediate rating for indifference (*neither disagree nor agree*). Examples of items are: "I prefer to consult with a specialist when I take financial decisions"; "I would be willing to pay for the advice of a financial expert"; "I feel qualified to make my own investment decisions without advisors" (reversed score). Reliability was α = 0.77 in the present study.

Need for Cognitive Closure

Need for cognitive closure was assessed with the *Need for Cognitive Closure Scale*, in its translated version (Mannetti et al., 2002), adapted to Spanish by Ramelli (2011). This scale has two factors: *Seizing* (predisposition to seek an immediate response when faced with uncertainty) and *Freezing* (predisposition to retain closure and avoid considering new information that might question it). The scale has 14 items that are rated with scores ranging between 1 (*strongly disagree*) and 5 (*strongly agree*). Reliability of the Spanish version was adequate, both in the original study (with α = 0.78; Ramelli, 2011), and in the present study (with α = 0.78). Examples of seizing (urgency) items are: "In case of uncertainty, I prefer to decide immediately, whatever it may be"; "When I have several potentially valid alternatives, I decide in favor of one quickly and without hesitation"; "After finding the solution to a problem, I think it is a waste of time to take other possible solutions into account." Item examples of the freezing (permanence) dimension are: "I feel very uncomfortable when things are not in their proper place"; "I feel uncomfortable when I do not get a fast answer to a problem I face." The NCC scale was subjected to Confirmatory Factor Analysis with Amos 24.0. The generalized least squares procedure was used. This two-factor CFA fitted the data reasonably well (χ^2 = 139.199, $p < 0.000$; df = 71, CMIN/df = 1.96; GFI = 0.93; AGFI = 0.90, RMSEA = 0.06).

All the factor loadings for the items exceed the 0.40 and both factor correlated as expected (0.72). Some covariances among error have been allowed due to the similarity of the item content, but in any case, between items included under the same factor. Factor loadings, and the Spanish formulation of items, are displayed in **Table 1**.

Analytic Strategy

In order to test the study hypotheses, we performed a linear regression analysis. Before testing the hypothesized moderated mediation model, the indirect and moderating effects were first tested separately with the PROCESS macros for SPSS 24 (Hayes, 2013). With bootstrap procedures of 5,000 samples at a 95% confidence level, the confidence intervals that do not contain 0 indicate that the indirect effect is significant. We did not include any control variables in the following analyses.

RESULTS

Descriptive statistics and Pearson correlations between the study variables are provided in **Table 2**. Investment literacy was positively and significantly associated both with investment advice use (r = 0.19) and with financial management behavior (r = 0.31), whereas investment advice use and financial management behavior showed the strongest correlation (r = 0.41). The relation between freezing and financial management behavior reached statistical significance (r = 0.16). NCC dimensions showed a positive relationship with each other (r = 0.44).

Table 3 shows the results obtained when testing the first hypothesis. The linear regression analysis shows the total effect (b = 0.17, $p < 0.000$) of investment literacy on financial management behavior [R^2 = 0.22, $F(2,269)$ = 37.54, $p < 0.001$].

Regarding the mediation of investment advice use in the relationship between investment literacy and financial management behavior, a significant and positive association

TABLE 1 | Need of Cognitive Closure Scale (Ramelli, 2011) and factor loadings.

	Factor	
	Freezing	**Seizing**
En caso de incertidumbre, prefiero tomar una decisión inmediata, sea la que sea (Seizing 1)		0.62
Cuando me encuentro frente a varias alternativas potencialmente válidas, me decido a favor de una rápidamente y sin vacilaciones (Seizing 2)		0.69
Prefiero decidirme de acuerdo con la primera solución disponible, en vez de considerar en detalle qué decisión debería tomar (Seizing 3)		0.66
Cuando necesito enfrentarme a un problema, no pienso mucho sobre él y me decido sin dudar (Seizing 4)		0.52
Cuando necesito solucionar un problema, generalmente no pierdo el tiempo considerando diversos puntos de vista sobre el mismo (Seizing 5).		0.61
Generalmente, no busco soluciones alternativas a problemas para los que ya tengo una solución disponible (Seizing 6)		0.52
Después de encontrar la solución a un problema, considero que es una inútil pérdida de tiempo tener en cuenta otras soluciones posibles (Seizing 7).		0.48
Me siento muy incómodo cuando las cosas a mi alrededor no están en su sitio (Freezing 1).	0.58	
Generalmente, evito participar en discusiones sobre temas ambiguos y controvertidos (Freezing 2)	0.42	
Prefiero estar con personas que tienen las mismas ideas y los mismos gustos que yo (Freezing 3)	0.42	
Me siento incómodo cuando no logro dar una respuesta rápida a un problema al que me enfrento (Freezing 4)	0.77	
Cualquier solución a un problema es mejor que permanecer en un estado de incertidumbre (Freezing 5)	0.53	
Prefiero actividades en las que está siempre claro qué es lo que hay que hacer y cómo hay que hacerlo (Freezing 6)	0.45	
Prefiero cosas a las que estoy acostumbrado que aquéllas que no conozco y no puedo predecir (Freezing 7)	0.44	

between investment literacy and investment advice use ($b = 0.20$, $p < 0.000$) was observed. Furthermore, a statistically significant direct effect of investment literacy on financial management behavior ($b = 0.16$, $p < 0.001$) was found, as well as a statistical significant effect of investment advice use on financial management behavior ($b = 0.23$, $p < 0.001$). Hence, there is a significant indirect effect of investment literacy on financial management behavior through investment advice use ($b = 0.05$). Finally, we tested the significance of this mediation effect through the bootstrapping procedure, which showed that the confidence interval for the indirect effect does not contain zero [0.01, 0.09], supporting the significance of the mediation effect. These results provide reasonable confirmation of hypothesis 2.

Finally, we tested hypothesis 3 following the procedures recommended by Hayes (2013), as shown in **Table 4**.

Firstly, **Table 4** shows a negative direct effect between NCC – seizing and financial behavior ($b = -0.32$, $p < 0.05$), which suggests that the higher the tendency to seek an immediate solution to solve an uncertainty, the lower the management of financial behavior. Secondly, upon testing hypothesis 3 regarding the moderating effect of seizing on the relationship between investment literacy and financial management behavior, mediated by investment advice use, we found a statistically significant positive interaction effect ($b = 0.12$, $p < 0.01$). Thirdly, regarding the moderating effect of freezing on the relationship between investment literacy and financial management behavior, mediated by investment advice use, we also found a statistically significant positive interaction effect ($b = 0.12$, $p < 0.01$). The index of moderated mediation for the seizing dimension was 0.024 ($SE = 0.013$), while the 95% confidence interval with bootstrapping of 5,000 samples did not contain zero (Boot CI [0.003, 0.059]), and for the freezing dimension, the index was 0.023 ($SE = 0.013$, Boot CI [0.002, 0.059]).

Hence, the data support hypothesis 3. The indirect conditional effects of investment literacy on financial management behaviors at the two levels of the moderators are displayed in **Table 5**, where the effect of investment literacy on financial management behavior was strong at the high level of NCC (seizing and freezing), and it was correspondingly weak when NCC was low. The two effects are statistically significant although in the opposite direction that was expected.

Figures 1, **2** depict the moderation effect of both NCC dimensions. What they show is not consistent with our expectations: individuals reporting higher investment advice use also showed a greater level of financial management behavior if they were characterized by high NCC-seizing at T1 (see **Figure 1**).

Also, contrary to our expectations, respondents reporting higher investment advice use at T2 showed a greater level of financial management behavior at T3 if they were characterized by high NCC freezing at T1 (see **Figure 2**).

Taken together, this result implies that investment advice use (T2) mediates more strongly the relationship between investment literacy (T1) and financial management behavior (T3) for young adults characterized by moderate to high levels of NCC (T1) than in adults with lower levels of NCC (T1). These results are depicted in **Figure 3**.

DISCUSSION

The present work supports the hypothesis that investment literacy may affect subsequent financial management behavior in young, financially independent, adults. These findings corroborate the key assumption of a long research tradition that links financial literacy with the improvement of financial management behavior. In addition, the present investigation suggests that efficacious financial management should not be conceived as only a mere consequence of knowledge and confidence to use it, but rather as the outcome of the joint influence of cognitive aspects and social influences that affect individuals. In fact, in the present work, the impact of investment literacy on financial management behavior is explained by the use of investment advices provided, in a social communication

TABLE 2 | Descriptive statistics and correlation matrix.

Variables	*M*	*SD*	*1*	*2*	*3*	*4*
Predictors						
1. Investment literacy (T1)	3.2	0.81				
2. Investment advice use (T2)	2.7	0.85	0.19**			
Outcome						
3. Financial management behavior (T3)	3.3	0.55	0.31**	0.41**		
Moderator variables						
4. NCC-Seizing (T1)	2.7	0.64	−0.11	−0.10	−0.06	
5. NCC-Freezing (T1)	3.3	0.63	0.10	0.06	0.16**	0.44**

*N = 272; M, Mean; SD, standard deviation; T1, time 1; T2, time 2; T3, time 3. *p < 0.05; **p < 0.01.*

TABLE 3 | Regression results of testing the mediation of investment advice use (T2) in the relationships between investment literacy (T1) and financial management behavior (T3) (hypotheses 1 and 2).

Outcome: Investment advice use (T2)	***b*[a]**	***SE***	***t***	**LLCI 95%**	**ULCI 95%**
Investment literacy (T1)	0.20**	0.06	3.21	0.07	0.32
R^2	0.04*				
$F_{(1,270)}$	10.32*				
Outcome: Financial management behavior (T3)	***b*[a]**	***SE***	***t***	**LLCI 95%**	**ULCI 95%**
Total effect investment literacy (T1) on financial management behavior (T3)	0.17**	0.03	4.4	0.08	0.23
Direct effect: Investment literacy (T1)→ financial management behavior (T3)	0.16**	0.03	4.3	0.09	0.23
Direct effect: Investment advice use (T2)→ financial management behavior (T3)	0.23**	0.03	6.49	0.16	0.30
Indirect effect: Investment literacy (T1)→ investment advice use (T2)→ financial management behavior (T3)	0.05	0.01		0.01	0.09
R^2	0.22*				
$F_{(2,269)}$	37.54*				

*N = 272. [a] Unstandardized b coefficients; SE, standard error; CI, confidence interval. Bootstrap = 5,000 samples. *p < 0.01, **p < 0.001.*

TABLE 4 | Results of testing the moderation of NCC (T1) on the investment advice use (T2) – financial management behavior relationship (T3) (hypothesis 3).

	Criterion variable: Financial management behavior (T3)				
Predictor variable	***b*[a]**	***SE***	***t***	**LLCI**	**ULCI**
Investment advice use (T2)	0.17	0.04	4.51***	0.09	0.24
NCC-Seizing (T1)	−0.32	0.13	−2.47*	−0.58	−0.07
Interaction investment advice use (T2) × NCC-Seizing (T1)	0.12	0.04	−2.64**	0.03	0.21
R^2	0.24				
$F_{(4,267)}$	20.9***				
Investment advice use (T2)	0.15	0.04	4.21***	0.07	0.22
NCC-Freezing (T1)	−0.21	0.12	−1.62	−0.45	0.04
Interaction investment advice use (T2) × NCC-Freezing (T1)	0.12	0.04	2.58*	0.03	0.21
R^2	0.25				
$F_{(4,267)}$	22.3***				

*N = 272. [a] Unstandardized b coefficients; SE, standard error; CI, confidence interval. Bootstrap = 5,000 samples. *p < 0.05, **p < 0.01, ***p < 0.001.*

exchange, by a financially expert advisor. Therefore, the present study has focused on facets predominantly studied in current economic psychology (Webley et al., 2002).

Following the growing number of works suggesting that personality traits affect financial behavior beyond the influence of people's knowledge and external factors (Norvilitis et al., 2006; Warmoth et al., 2016), this work shows that NCC plays a moderating role in the relation between investment literacy and financial management behavior, mediated by investment advice use. Thus, our evidence shows how the personal tendencies of seizing and freezing influence predictors of financial management behavior. On this regard, results show a two side picture. From one side, as we expected, seizing is negatively related to financial behavior; which suggests that individuals with higher tendency to reach quickly a knowledge, a solution to some financial problem, the lower the rate of financial

TABLE 5 | Results of testing moderated mediation of NCC dimensions in the relationship between investment literacy (T1) and financial management behavior (T3).

	Moderator levels	Conditional effect[a]	Boot *SE*	95% CI	
				Boot LLCI	Boot ULCI
Seizing (T1)	2.01 (Low)	0.03	0.01	0.006	0.07
	3.3 (High)	0.06	0.02	0.01	0.10
Freezing (T1)	2.62 (Low)	0.02	0.01	0.005	0.07
	3.9 (High)	0.06	0.02	0.02	0.11

N = 272. [a] Unstandardized b coefficients; SE, standard error; CI, confidence interval; LL, lower limit; UL, upper limit. Bootstrap = 5,000 samples.

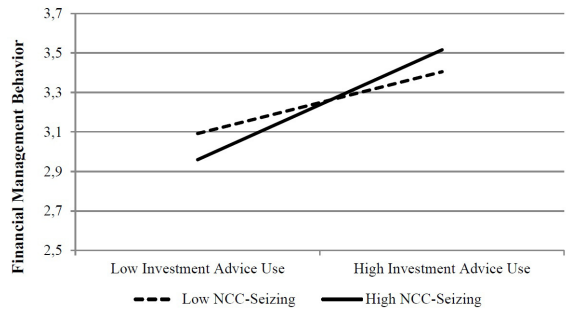

FIGURE 1 | Moderation of NCC-Seizing (T1) on the investment advice use (T2) – financial management behavior (T3) relationship.

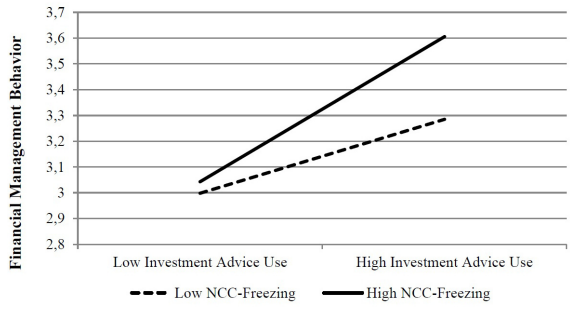

FIGURE 2 | Moderation of NCC-Freezing (T1) on the investment advice use (T2) – financial management behavior (T3) relationship.

practices. On the other side, contrary to our expectations, individuals that look for financial advice and with high NCC, both for seizing a solution and for freezing it, probably accept quickly the suggestion from the advisor and start to implement it consistently and repeatedly, thus improving their financial performance, in comparison to individuals with lower NCC that may take longer to implement the advice provided by the financial advisor.

This work presents a new viewpoint of how to improve financial behavior among youth and, therefore, can contribute to increasing the efficacy of early interventions to develop responsible financial behavior (Gariepy et al., 2017). Firstly, confirming previous studies (e.g., Calcagno and Monticone, 2011; Collins, 2012), it seems that to benefit of financial advice it is, at least, useful (if not, necessary), to have a good level of financial literacy. Thus, educational, social and political systems should consider how to create opportunities for young adolescents to experience and practice financial competences. Secondly, in this same line, intervention strategies should be oriented toward increasing the coherence between knowledge, expert advice, and financial management behaviors to practice the specific behaviors of saving and investment during young adulthood. Translating this into concrete practices, early assessment of people's tendencies of Seizing and Freezing could help to recognize these early propensities and their potential bias in the processing of financial information. For example, special attention should be paid during adolescence to these psychological traits to help people develop strategies that compensate these tendencies and reduce their potential negative impact on processes of making complex decisions which may require more time for the analysis and processing of more complex information (Gerlach, 2017). Following these recommendations, parents and educators can develop training programs specifically designed to offset those biases.

Thirdly, while the relationship between investment advice use and financial management behavior is not questionable, the present findings indicate that the quality and quantity of the effects are influenced by employees' NCC tendencies. According to the present findings, financial advisors might rely upon a complementary tool to increase the efficacy of their interventions. In particular, by monitoring the level of NCC of investors, they may provide some customized services. This would support the idea that not all the products or services fit all the customers, but rather that professionals should fine tune their work in relation to investors' need to remain open or to close and fix the financial suggestions that are provided. If high NCC individuals might be efficient in implementing easily and quickly the advices provided to them, it is also necessary to remind them of the need to continue to search regularly the advices, to update, and modify financial choices that might become outdated and no more matching the financial situation of the market. In comparison, they must present much wider and more complex financial solutions to low NCC investors, to satisfy their need for extended information processing and thus, facilitate their passage to the actual and concrete financial behavior.

This study presents some limitations that should be considered. Firstly, even though we have considered some cognitive, social, and personality variables in accordance with

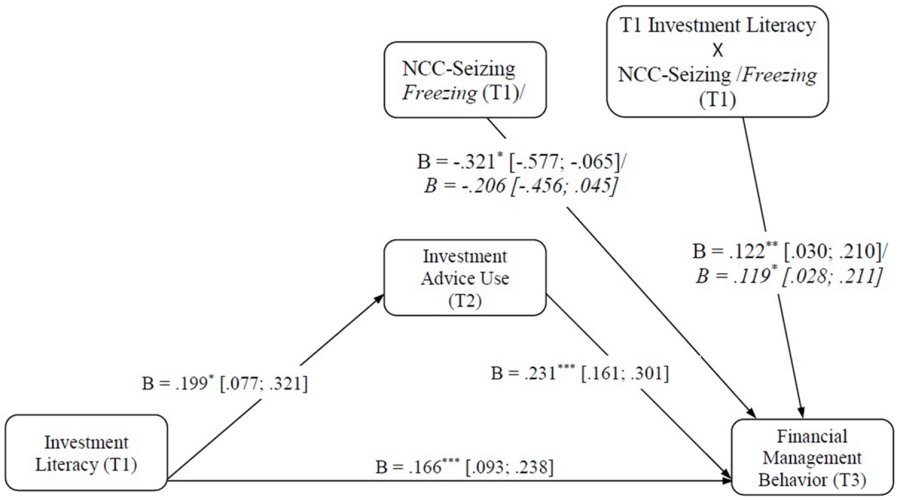

FIGURE 3 | Results of the moderated mediation analysis. NCC, need for cognitive closure; [95% CI]; $*p < 0.05$, $**p < 0.01$, $***p < 0.001$. Values in italics: correspond to the Freezing dimension.

Huston (2010) model, many other variables could have been considered and should be considered in future research. When referring to long-term economic planning, young workers' expectations about occupational security, career development, promotion, and progress might also influence their financial management behavior (Ekici and Koydemir, 2016).

Secondly, in this study we measured financial management behavior by tapping participants' perceptions of their behavior; future studies should include real daily behaviors (e.g., checking one's bank account, making a monthly budget, controlling credit card expenditures), for example, using research procedures like day reconstruction methods or experience sampling.

Thirdly, in this study we used a 3 months' lag time between each wave and the following. This lag time allowed anyway to detect a significant relationship between financial literacy and use of financial advice, and between this latter and financial behavior. However, time between waves might be extended to investigate how long is the effect of financial literacy on investment advice, and especially how long such advices may affect financial performance. Fourthly, another limitation is that investment literacy was included only at a first point in time, precluding the possibility of establishing the reverse causation between behavior and knowledge. A research design including the same three variables in each wave, will allow to investigate if, for instance, it is an underperforming financial situation to stimulate the search of financial advices.

Fifthly, in this study, we did not deal with attitudes toward financial professionals, such as customers' trust and anxiety when consulting them (Grable et al., 2015). In future studies, one might directly ask participants what they think and feel about their financial advisors and incorporate this information as a moderating variable.

Finally, financial literacy studies in general showed another limitation that is due to the well-known association between lower literacy with poor health, low income, and other undesirable outcomes but, as with the present findings on financial management behavior, there is not enough evidence to support any causal direction (Ma, 2016). To date, little is known about the causes and correlates of wrong financial decisions during the life course (Budowski et al., 2016). This kind of knowledge needs to be improved, despite the difficulty of obtaining information from the participants regarding their wealth, financial literacy, and consumer behaviors, and this study does not escape to similar challenges and gaps in data (Manske et al., 2016).

However, this investigation can provide some suggestions to guide future research. First, although we did not examine the impact of gender on financial literacy and financial behavior, it seems that gender differences are related to the quality of financial decisions, even though women's levels of financial literacy and economic income have improved regarding past decades (Heilman and Kusev, 2017). Therefore, investigating the relationship between gender and NCC could help educators in general, and financial advisors, to design intervention strategies to help women to achieve efficacious financial management (Rudzinska-Wojciechowska, 2017).

Second, research seems to indicate that NCC and risk intolerance are associated. Specifically, risk intolerance is a widely studied variable in the financial setting, but the antecedents of intolerance of risk and ambiguity are still unclear. Therefore, a possible link with NCC could be analyzed, as has been shown in an experimental study (Vermeir and van Kenhove, 2005).

Third, research indicates that executive functions such as impulse control, attention regulation or mental flexibility could be linked to NCC (Dolinski et al., 2016) and to performance in complex tasks and financial well-being. However, recent studies related to the executive functions show that they develop throughout adolescence. Accordingly, early intervention with youth could contribute to improving these cognitive functions, with their consequent influence on NCC and subsequent

benefit for the management of complex behaviors, like finances (Barnhoorn et al., 2016; Urquijo et al., 2016).

Lastly, NCC and its correlates of ambiguity intolerance and risk aversion have always been analyzed from an individual perspective. However, recent works propose the possible influence of social comparison in decision making in general and, specifically, in risk-taking behavior (Wang et al., 2016). In this sense, it would be interesting to analyze in future works the influence of the social gains of decisions and their possible interaction with the decision-makers' NCC.

Financial literacy and decision making should be further explored to better understand how health and well-being are influenced by them during the life course. This research could help societies and policy makers to reduce the considerable economic and public health challenge that posed fast population aging, associated with low financial knowledge and overconfident decision making (Khan et al., 2016). Ultimately, such data will guide interventions to improve literacy and promote independence, wealth, health, and well-being among people from young adulthood to old age.

AUTHOR CONTRIBUTIONS

GT, MH-S, and SZ designed the research, analyzed the data, and wrote and revised the manuscript. GT collected the data.

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Analysis of the Mediating Role of Self-Efficacy and Self-Esteem on the Effect of Workload on Burnout's Influence on Nurses' Plans to Work Longer

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At the present time, we know that there is a positive relationship between self-efficacy and self-esteem in which positive beliefs about one's own efficacy increase one's sense of self-worth as stressful situations of a heavy workload are coped with successfully, and this, in turn, affects the nurses' plans to work longer. Analyze the mediating role of self-efficacy and self-esteem in the effect of workload, measured as the number of users attended to during a workday, on burnout in nursing professionals. A sample of 1307 nurses aged 22 to 60 years who were administered the *Brief Burnout Questionnaire*, the *General Self-Efficacy Scale,* and the *Rosenberg Self-Esteem Scale*, and workload, measured as the number of users attended to during the workday. The results show that professionals with high levels of self-efficacy also scored higher on global self-esteem. Burnout correlated negatively with both variables (self-efficacy and self-esteem). Three clusters were found with the variables (self-efficacy, self-esteem, and workload) showing significant differences in burnout scores among clusters. Self-efficacy and self-esteem function as buffers of the negative effects of workload on burnout. Organizations should design interventions for promoting the personal resources of their workers through training activities and organizational resources (e.g., redesigning job positions) to promote satisfaction and wellbeing of employees, making their stay at work greater.

Keywords: self-efficacy, self-esteem, workload, burnout – professional, psychology, mediating model

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INTRODUCTION

The World Health Organization [WHO] considers burnout, which has also been analyzed in education (Martos et al., 2018; Vizoso-Gómez and Arias-Gundín, 2018), an occupational illness of special relevance (World Health Organization [WHO], 2016). This syndrome is characterized by gradual physical and mental exhaustion of individuals, feelings of detachment and of negative attitudes toward their job, and perception of diminished professional efficacy (Maslach et al., 2001).

Even though workers in different occupational sectors may suffer from this syndrome, there is a stronger risk for healthcare professionals, because permanent contact with the suffering and illnesses of others makes their work setting particularly emotionally and psychologically stressful (Adriaenssens et al., 2015; Hunsaker et al., 2015; Banerjee et al., 2016). We can't forget that

this syndrome is also present in other sectors, such as in Alzheimer's Patient Family Caregivers with no Specialized Training (Pérez-Fuentes et al., 2017). Therefore, the importance of its study stems from the negative consequences it has for the health of workers and the organization. For example, it has been demonstrated that burnout is related to a diversity of physical illnesses (musculoskeletal, cardiovascular, gastrointestinal, respiratory infections, etc.) (Jaworek et al., 2010; Kim et al., 2011) and psychological problems (mood, depression and anxiety disorders, etc.) (Bianchi et al., 2015; Maslach and Leiter, 2016), negatively affecting job performance and leading to absenteeism (Schaufeli et al., 2009; Bakker and Demerouti, 2014).

One of the theoretical models of reference in research on wellbeing and job stress is the *Job Demands-Resources Model* (JD-R), developed by Demerouti et al. (2001), to provide an understanding of burnout and other psychological processes that take place in organizations. Among other matters, this model identifies the job demands that are the best predictors of burnout though a process of deterioration of an employee's health, which can trigger psychosocial distress, absenteeism and lack of worker commitment to the organization (LePine et al., 2005; Bakker et al., 2014; Bakker and Demeoruti, 2017). The job demands which have received the most attention in the literature are related to tasks and functions in job positions, especially workload (Garcia-Izquierdo and Rios-Risquez, 2012; Cooper et al., 2016; Kandelman et al., 2017; Purohit and Vasava, 2017). Workload may be understood from its quantitative perspective, referring to the perception of an excess volume of work with regard to the time available for it, and its qualitative dimension, which alludes to the quality and complexity of work to be done (French et al., 1982). Kalisch and Lee (2014), for example, found that workload, referring to the number of patients attended to in a workday, was related to dissatisfaction of nursing professionals. Meanwhile, Van Bogaert et al. (2017) found that factors related to daily work routines influenced the perception of workload of nursing employees, especially, the large number of patients and severity of illnesses. Nevertheless, these authors suggested that the negative perception of workload is not exclusively determined by the volume of work, but also by the feelings of frustration generated by not being able to attend adequately to the needs of patients or offer them quality service.

In addition, in a recent extension of the original JD-R model, workers' personal resources were included to complete the structure of the Work Resources and Demands Model (Xanthopoulou et al., 2007). From this perspective, positive self-evaluations or beliefs workers have about their control over their setting can buffer the negative impact of work demands and at the same time, relate positively to engagement and job performance (Bakker and Demeoruti, 2017). Among these beliefs, self-efficacy and worth, which have been widely studied in Organizational Psychology because of their involvement in wellbeing and occupational health, are emphasized (Ventura et al., 2015; Alharbi et al., 2016; Barbaranelli et al., 2018).

Self-efficacy is a "belief" that individuals have about their capacity to control their surroundings and influences the way they behave, think and feel about future events (Bandura, 1977, 1997). In this sense, workers' beliefs about their self-efficacy are essential to how they perceive the context in which they work, especially when they have to cope with very demanding and potentially stressful job demands (Grau et al., 2012; Ventura et al., 2015). In such cases, the employees with positive beliefs about their self-efficacy respond adaptively to job stressors, predicting positive states of spiraling gains (e.g., engagement) (Ventura et al., 2006; Lorente et al., 2014; Pérez-Fuentes et al., 2018). On the contrary, those workers who consider themselves ineffective, will attribute failures to a deficit in their competence, increasing their feeling of inefficacy (Van Wingerden et al., 2017).

Self-esteem is the global positive or negative evaluation a person has of their self-worth (Rosenberg, 1965). High levels of self-esteem have been related to wellbeing, satisfaction (Orth et al., 2012; Extremera and Rey, 2018) and effective management of stress and coping with conflictive situations (Bajaj et al., 2016; Yildirim et al., 2017).

There is also considerable attention to the study of self-esteem due to its significant repercussions in the school (Pérez-Fuentes and Gázquez, 2010; González-Cabanach et al., 2017) and at work (Bakker et al., 2014; Lin et al., 2018), and more specifically, with regard to the burnout syndrome (Molero et al., 2018a,b).

Finally, we start from the following hypothesis, that some studies have shown that there is a positive relationship between self-efficacy and self-esteem (Maggiori et al., 2016), in which positive beliefs about one's efficacy increase the feeling of self-worth as stressful situations are coped with successfully (Caprara et al., 2010, 2013).

Our objective was to analyze the mediating role of self-efficacy and self-esteem on the effect of work load, measured as the number of users attended to in the workday, on burnout in nursing professionals.

MATERIALS AND METHODS

Participants

The original sample consisted of 1601 nurses in Andalusia (Spain) randomly selected from different health centers, of whom those actively employed at the time data were acquired were selected. Cases of random answers or incomplete questionnaires were discarded. Thus the final study sample was composed of a total of 1307 participants. The mean age was 32.03 years (SD = 6.53) in a range of 22 to 60. Of the total sample, 84.5% (n = 1104) were women and 15.5% (n = 203) men, with a mean age of 32.03 (SD = 6.50) and 32.01 (SD = 6.71), respectively. As for their employment situation, 67.1% (n = 877) were working at temporary jobs and 32.9% (n = 430) had permanent contracts.

Instruments

An *ad hoc* questionnaire was prepared for sociodemographic data (age, sex), as well as for information on workload, measured as the number of users attended to in a workday.

Cuestionario Breve de Burnout [Brief Burnout Questionnaire]

This consists of 21 items on a five-point Likert-type response scale, which evaluates background, elements and consequences

of the syndrome (Moreno et al., 1997). Its purpose is an overall evaluation of burnout as well as its background and consequences, in the three blocks the questionnaire is organized in. In the study subject of this paper, the block made up of the three syndrome factors in the Maslach and Jackson model (1981) was used. Instrument reliability for the study sample, specifically, for global burnout, was $\alpha = 0.78$.

General Self-Efficacy Scale

This scale consists of 10 items with a four-point Likert-type format that evaluate a person's perception of their own competence for managing different stressful situations effectively (Baessler and Schwarcer, 1996). Sanjuán et al. (2000), analyzed the reliability of the scale, finding a Cronbach's alpha of 0.87. In our case, the calculation of internal consistency of the scale found an alpha of 0.92.

Rosenberg Self-Esteem Scale

This was developed for evaluating self-esteem in adolescents (Rosenberg, 1965). It is made up of 10 items whose contents concentrate on feelings of respect and acceptance of oneself. The response is rated on a four-point Likert scale (from 1 = Strongly agree to 4 = Strongly disagree). Other studies have demonstrated its adequate psychometric characteristics in both a general population (Atienza et al., 2000) and in more specific populations (Vázquez et al., 2013). In our case internal consistency was $\alpha = 0.86$.

Procedure

Before collecting data, participants were guaranteed compliance with confidentiality and ethical information standards in data processing. The study was approved by the Bioethics Committee of the University of Almería (Spain). Questionnaires were implemented on a Web platform which enabled participants to fill them out online. For control of random or incongruent answers, a series of control questions were inserted and any such cases were discarded from the study sample.

Data Analysis

First, to explore the relationships between variables, correlation analyses were done for the continuous quantitative variables. A two-stage cluster analysis was also carried out to group participants by self-esteem as a categorical variable (low, medium and high), and other continuous quantitative variables, such as general self-efficacy and the number of users attended to per workday. Once the clusters or groups had been identified, an ANOVA was done to determine the existence of significant differences between groups with respect to burnout as the dependent variable. To determine which groups were significantly different from each other, the *post hoc* Scheffé comparison test was applied. The SPSS statistical software version 23.0 for Windows was used for these analyses.

Finally, a multiple mediation analysis was done with two mediator variables forming a causal chain to compare the mediating effect of the perceived Self-efficacy and Self-esteem variables. The Preacher and Hayes (2008) SPSS macro for mediation effects was used to compute the mediation model. Bootstrapping was applied with coefficients estimated from 5000 bootstraps to test the indirect effect.

RESULTS

Burnout in Nursing and Its Relationship With Perceived Self-Efficacy, Self-Esteem, and Workload

Table 1 presents the descriptive statistics of each of the variables of the study and bivariate correlations. The correlation coefficients found reveal that professionals with high levels of self-efficacy also showed higher scores on global self-esteem ($r = 0.53$; $p < 0.001$). Moreover, burnout correlated negatively with both variables (self-efficacy: $r = -0.19$; $p < 0.001$ and self-esteem: $r = -0.28$; $p < 0.001$).

A cluster analysis was done to form the groups entering the following variables: self-esteem (low, medium, and high), perceived self-efficacy, and workload. Three groups resulted from this analysis (**Figure 1**), distributed as follows: 43.2% ($n = 563$) of the participants pertained to Cluster 1, 35.9% ($n = 468$) to Cluster 2, and the remaining 20.9% were in Cluster 3 ($n = 272$).

The first group (Cluster 1) was characterized by low self-esteem and means slightly below the mean of the total sample on perceived self-efficacy ($M = 29.27$) and number of users attended to ($M = 20$).

The second group (Cluster 2) included nursing professionals with a medium level of self-esteem who scored near the mean in perceived self-efficacy ($M = 31.85$), and a slightly higher mean ($M = 21.75$) in workload than the total sample.

The third group (Cluster 3) identified professionals who had high self-esteem, medium scores in perceived self-efficacy ($M = 35.04$) and were above the mean of the total sample. In this group, the mean users attended to per workday was similar to the mean for the sample ($M = 20.93$).

TABLE 1 | Burnout, perceived self-efficacy, self-esteem, and workload.

	1	2	3	4	*M*	*SD*	*Skewness*	*Kurtosis*
1. Burnout	–				55.42	7.49	0.632	1.473
2. Perceived self-efficacy	−0.19***	–			31.40	4.57	−0.128	0.842
3. Self-esteem	−0.28***	0.53***	–		26.10	3.75	−0.370	−0.039
4. Workload[(a)]	0.13***	0.07**	0.03	–	20.82	17.28	1.425	2.193

*Correlations and descriptive statistics (N = 1307). [(a)]Number of users attended to in a workday; **p < 0.01; ***p < 0.001.*

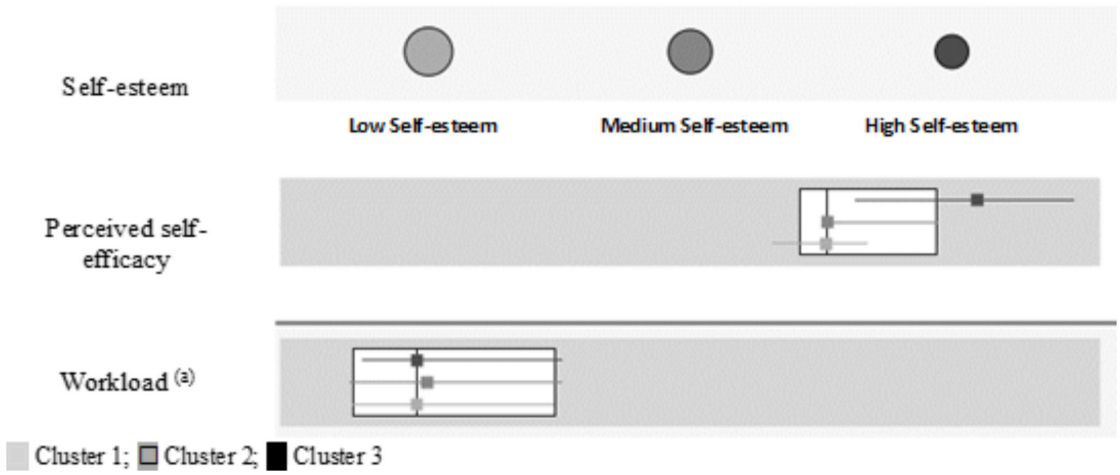

FIGURE 1 | Comparison of clusters. (a)Number of users attended to in a workday.

TABLE 2 | Differences in burnout between groups (clusters).

	Cluster	*N*	*Mean*	*SD*	ANOVA		Difference in means
					F	Sig.	
Burnout	1	563	57.14	7.18	38.94	0.000	|c1−c2|***|c2−c3|***|c1−c3|***
	2	468	55.09	7.49			
	3	272	52.43	7.16			

*Descriptive, ANOVA, and post hoc; ***$p < 0.001$.*

After classification in groups, based on the three-cluster solution, an ANOVA was performed to find out whether there were any differences in the clusters with respect to burnout. The Scheffé test was used for *post hoc* comparisons.

As observed in **Table 2**, there were significant differences between clusters [$F_{(2,1304)} = 38.94$; $p < 0.001$; $\eta_p^2 = 0.05$] for burnout scores. Cluster 1 is where the mean score on burnout was highest ($M = 57.14$; $SD = 7.18$), followed by Cluster 2 ($M = 55.09$; $SD = 7.49$) and, finally with the lowest mean score in burnout, Cluster 3 ($M = 52.43$; $SD = 7.16$). *Post hoc* analyses showed that the differences found among the three groups were statistically significant.

Multiple Mediation Model for Estimating Predictors and Paths of Indirect Effects of Perceived Self-Esteem and Self-Esteem on Burnout

Considering workload as the independent variable (X), and self-efficacy and self-esteem as mediating variables (M_1: SELF-EFFICACY and M_2: SELF-ESTEEM), the multiple mediation model was computed with burnout as the dependent variable (Y).

Figure 2 shows the multiple mediation model for burnout including direct, indirect and full effects.

In the first place, there was a statistically significant effect [a_1: $B = 0.02$, $p < 0.01$] of workload (X) on perceived self-efficacy (M_1). The second regression analysis took the second mediator (M_2) as the result variable, and included the workload (X) and perceived self-efficacy (M_1) variables in the equation. There was a significant effect of self-efficacy [d_{21}: $B = 0.43$, $p < 0.001$] on self-esteem (M_2), but the same was not true of self-esteem [a_2: $B = 0.00$, $p = 0.74$].

In the third regression analysis, the effect of the independent variable and the two mediators was estimated taking burnout (Y) as the result variable. In all cases, significant effects were observed: workload [c': $B = 0.05$, $p < 0.001$], perceived self-efficacy [b_1: $B = -0.12$, $p < 0.05$], and self-esteem [b_2: $B = -0.50$, $p < 0.001$]. The total effect of workload on burnout was significant [c: $B = 0.06$ $p < 0.001$].

Finally, the indirect effects were analyzed by bootstrapping, finding data supporting a significant level for Path 1 [ind_1: $X \rightarrow M_1 \rightarrow Y$; $B = -0.002$, $SE = 0.001$, 95% CI (−0.007, −0.000)] and Path 2 [ind_2: $X \rightarrow M_1 \rightarrow M_2 \rightarrow Y$; $B = -0.004$, $SE = 0.001$, 95% CI (−0.008, −0.001)]. However, the data did not support significance for Path 3 [ind_3: $X \rightarrow M_2 \rightarrow Y$; $B = -0.000$, $SE = 0.002$, 95% CI (−0.007, 0.004)].

DISCUSSION

Nursing professionals care for a large volume of patients during their workday, sometimes with an imbalance between time available to attend to their needs adequately and the workload.

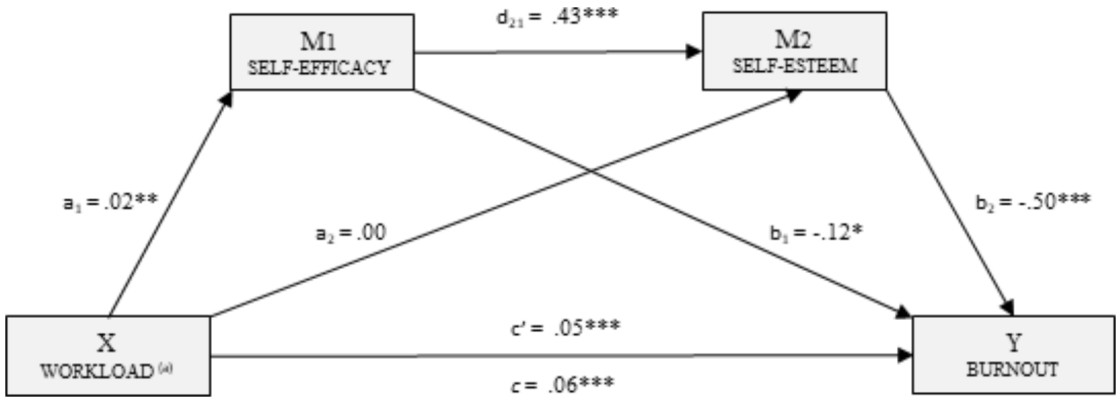

FIGURE 2 | Multiple mediation model of perceived self-efficacy and self-esteem on the relationship between workload and burnout. (a)Number of users attended to in a workday. *The correlation is significant at 0.05; **The correlation is significant at 0.01; ***The correlation is significant at 0.001.

This workload significantly influences the health, wellbeing of the employees and the plans for working longer, generating negative feelings and job dissatisfaction because they are unable to provide quality service (Cooper et al., 2016; Van Bogaert et al., 2017). According to the Job Demands and Resources Model, workload is a powerful stressor, in addition to a predictor of burnout, through a process of worsening health (Xanthopoulou et al., 2007; Bakker et al., 2014). However, our results showed that self-efficacy and self-esteem work as buffers of the negative effects of workload on burnout. In fact, authors such as Bakker et al. (2014) and Bakker and Demerouti (2017) have shown the outstanding role of personal resources for their capacity to attenuate the negative impact of job stressors and their relationship with various positive results in the sphere of organization (e.g., engagement and job performance).

It has also been found that beliefs about self-efficacy influence self-esteem itself, increasing one's perception of self-worth as stressful situations are overcome successfully. Bandura's Cognitive Social Theory (1977) showed that positive beliefs in self-efficacy increase motivation to begin and maintain behavior for reaching desired goals, so successful experiences increase positive self-evaluations of self-worth and this affect the plans to work longer. Furthermore, longitudinal studies have demonstrated that there is a reciprocal relationship between self-efficacy and self-esteem over time (Caprara et al., 2010, 2013).

The mediation models show that a chain relationship may be established, in which the number of users attended to in a workday present opportunities to evaluate the degree to which professionals perceive the efficacy with which they perform their tasks, with the consequent repercussion on their self-esteem. Thus, job demands are considered challenge stressors which promote personal growth of the workers, generating positive emotions (LePine et al., 2005; Van Bogaert et al., 2017). In this light, nursing professionals consider the effort required to care for a large volume of patients to be related positively to the probability of performing the task satisfactorily, and covering this demand is also associated with positive consequences, such as the plans to work longer.

In addition to this, the results show that self-efficacy and self-esteem interact with each other, and can attenuate the negative effect of workload on burnout. Thus nursing professionals with high levels of beliefs of self-efficacy cope with the workload with effort and perseverance, contributing to maintaining optimum levels of self-esteem, and thereby, increasing their engagement with their work (Lorente et al., 2014; Ventura et al., 2015; Bajaj et al., 2016).

The evidence derived from this study transforms into relevant practical implications. For example, the important effects which personal resources such as self-efficacy or self-esteem have on job demands, wellbeing of nursing professionals and occupational health should be emphasized (Molero et al., 2018a). This is why organizations should design interventions oriented toward fostering personal resources of workers through training activities and organizational resources (e.g., redesigning job positions) to promote the satisfaction and wellbeing of their employees.

Nonetheless, the results should be considered under some limitations. The first is the method used to collect the data, which could be biased by the variance of the single method, and should therefore incorporate other qualitative methods (e.g., interviews). Second, the sample is made up of a majority of women, with the difficulty associated with generalizing the results to the entire group. Finally, with this study design, it is not possible to find out whether the data on burnout remain constant over time, and determination of the influence of time or change variables on the relationships between the variables is impeded.

As future lines of research, we suggest including other job demands (e.g., work shifts and role stress) and other psychological variables (e.g., emotional intelligence and social skills), the expectations of time to work, and variables related to work resources such as autonomy and leadership style, to complete the job resources and demands model and offer

better understanding of the phenomenon. It would likewise be of interest to perform multi-level studies on burnout by the area where the nursing professionals work, so organizational preventive measures can be implemented.

CONCLUSION

The main objective of this study was to evaluate the mediating role of psychological variables on the effect of workload on burnout in nursing professionals. It revealed that workload has a significant positive relationship with burnout, while self-efficacy and self-esteem act as protective variables. It was also demonstrated that workload has an indirect effect on self-esteem, mediated by beliefs about self-efficacy, and that the joint effect of self-efficacy and self-esteem can buffer the negative effect of workload on burnout. In view of all of the above, a line of research is now starting in which the analysis of the complex relationships established between the different variables and the effects of their combination, beyond the impact of isolated variables on burnout, is prioritized.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of 'Bioethics Committee of the University of Almería (Spain),' with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the Bioethics Committee of the University of Almería (Spain).

AUTHOR CONTRIBUTIONS

MM and MPF contributed to bibliographic review, article writing, and data analysis. All authors contributed to researchers of the project to which the article data belong.

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An Analysis of Factors Associated With Older Workers' Employment Participation and Preferences in Australia

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Australian government and organizational age-management policies continue to target employment participation among older workers in light of an aging population. Typically, efforts to reduce early retirement among older workers have focused on well-established factors, including the promotion of worker health, reducing injury, supporting caregivers, reducing age discrimination and enhancing skill development. This research extends on the former approach by examining established factors along with important emerging factors, namely work-life conflict, work centrality and person-job fit. Additionally, the research analyses the effects of gender and financial pressure on older workers' employment participation and preferences. Logistic regression analysis of cross-sectional survey data involving 1,504 Australians aged 45–65, revealed that two established factors, physical health and caregiving, and all three emerging factors were associated with employment participation and preferences to be employed. However, important variations on the basis of gender and financial pressure were also identified. Caregiving was more strongly associated with the preference to remain employed for men (OR = 0.2.54, $p < 0.01$) than women (OR = 1.03, *ns*) and person-job fit was more strongly associated with the preference to remain employed for women (OR = 1.64, $p < 0.001$) than men (OR = 0.91, ns). Work-life conflict was more strongly associated with the preference to leave employment for those reporting limited financial pressure (OR = 0.60, $p < 0.001$) compared to those in poorer financial circumstances (OR = 0.87, *ns*). These findings suggest that organizational age management policies should focus on both established and emerging factors, particularly the provision of flexible working conditions and improving the psychosocial work environment. However, such efforts should carefully consider the different needs of men and women, and those under varying levels of financial stress. With respect to government policy to promote employment participation, the findings support a stronger focus on improving physical and psychosocial work conditions rather than increasing the pension eligibility age. This may require further collaboration between government and employers.

Keywords: older workers, employment participation, work-life conflict, work centrality, person-job fit, early retirement factors

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INTRODUCTION

The predicted economic costs of population aging have stimulated the development of government policies to prolong employment in developed countries (e.g., Australian Government, 2011; Kryńska et al., 2014). For organizations, this has led to the development of age-management policies and practices to address well-established barriers to employment for older workers, including poor health, workplace injury, age discrimination, caregiving responsibilities and skill deficits. However, organizations have paid less attention to a range of emerging factors, namely work-life conflict, work centrality and the "fit" between a worker and their job, which may prove important to promoting workforce participation. Additionally, prior research has taken insufficient account of how these factors may differentially affect men and women or people experiencing different levels of financial pressure. This research addresses these increasingly important issues by examining how established and emerging factors contribute to older workers' employment participation and preferences and the extent these relationships are moderated by gender and financial pressure.

In examining the role of financial pressure on older workers' employment participation and preferences, we draw on data that was collected immediately following the 2007–2008 Global Financial Crisis (GFC). The economic constraints imposed by the GFC restricted older workers' choices to retire or remain employed. This constraint was compounded by subsequent increases in the eligibility age for Australia's means-tested age pension. Although Australia fared better than many countries in the GFC due to strong financial regulation and stimulus packages (Parliament of Australia, 2009), there was still a 26% drop in superannuation holdings by 2009, making retirement unaffordable for many (Kendig et al., 2013). Consequently, many older workers considered staying in the workforce longer or returning to work if already retired (Humpel et al., 2010; O'Loughlin et al., 2010; Higgens and Roberts, 2011). A recent report on employment patterns in OECD countries also notes a reversal in a previous trend toward early retirement, with a rise in the employment rate for the 55–64 age group on average, from 48% in 1990 to over 59% in 2016 (Martin, 2018).

As Australia recovered from the GFC, the pension age was set to progressively increase from 65 to 67 and potentially to 70 (Hockey, 2015). However, the average intended retirement age for current workers is 65, with only 20% expecting to work to 70 or beyond (Australian Bureau of Statistics, 2017). These figures suggest a period of approximately 5 years during which "early" retirees will be reliant on sickness or caregiving benefits (approximately two-thirds of pension payments), or personal finances, while waiting for pension eligibility. It is, therefore, important to reduce the barriers to employment participation through organizational age-management policies as well as government legislation and policies (e.g., Australian Government, 2016 – The Carer Recognition Act 2010). As noted in a recent review by Carlstedt et al. (2018), research on organizational-level factors associated with employment participation after pensionable age is scattered, and information on societal level predictors is scarce. This study aims to address this gap.

This study contributes new evidence regarding the significance of established and emerging factors on older workers' employment participation and preferences, according to gender and financial pressure, with the findings having significant policy implications for organizations and governments. These established and emerging factors fit within four broad categories identified in recent theorizing and meta-analysis (Fisher et al., 2016; Topa et al., 2018): Family pull, work-related, person-job related and individual factors, as discussed in the following section. Topa et al.'s (2018) meta-analysis showed that each factor had a similar (bivariate) association with early retirement; the current research builds on this analysis by examining these dimensions in a multivariate context.

Established Factors and Workforce Participation

A well-established body of literature has identified poor physical and mental health (individual factors), injury, age discrimination (work-related factors) caregiving (Family pull) and skill and training deficits (person-job related) act as barriers to employment participation for older workers. We refer to (and examine) these as established factors not only because of their evidence base, which is discussed below, but because they are formally targeted by Australian Government and organizational policies (e.g., the Australian Government, 2018 – Age Discrimination Act 2004).

Health

Meta-analysis of longitudinal data (van Rijn et al., 2014; Fisher et al., 2016) indicates that poor physical health is consistently associated with unemployment, transition to disability pension and early retirement. Similar outcomes are also found for poor mental health (e.g., Laaksonen et al., 2012; Paradise et al., 2012; van Rijn et al., 2014). Some scholars also estimate that rates of early retirement due to poor health will climb due to projected increases in chronic disease (Schofield et al., 2015).

Injury

Workplace injuries, particularly musculoskeletal disorders, are associated with disability and unemployment (Johnston et al., 2015), particularly as the severity of the injury increases (Kuhlman et al., 2014). In Australia, approximately 12% of women and 21% of men over 45 retire due to injury, disability or sickness (Australian Bureau of Statistics, 2017). Australian workers between 50 and 65 have the highest incidence of serious injury compensation claims (approximately 10.75 claims per 1,000 employees) compared to other age groups, and the prevalence is increasing over time (Safe Work Australia, 2016). Systematic reviews also demonstrate that the likelihood of returning to work following an injury decreases significantly with age (Cancelliere et al., 2016).

Age Discrimination

Workplace age discrimination "can occur in the form of biased decision making, negative evaluations, and unfair behaviors in contexts such as recruitment, personnel selection, performance appraisal, promotion decisions, and training" (Zacher and Steinvik, 2015, p. 327; Australian Government, 2018). Age discrimination is a significant barrier to employment (O'Loughlin and Kendig, 2017; O'Loughlin et al., 2017). Perceived age discrimination at work is also associated with long-term sickness absence (Viitasalo and Nätti, 2015), lower work engagement (Bayl-Smith and Griffin, 2014) and earlier intended retirement age (Zaniboni, 2015).

Caregiving

Evidence shows that caregivers work fewer paid hours, retire earlier and have poorer health than non-carers (Australian Human Rights Commission, 2013; O'Loughlin et al., 2017). A longitudinal study of 8,000 older British workers showed that, for females, entering a caregiving role increased the odds of exiting the workforce 2.64 times for part-time workers and 4.46 times for full-time workers (Carr et al., 2016). Moreover, caregiving responsibilities are also expected to intensify with population aging, leading to even earlier retirements (Yeandle and Buckner, 2017).

Job Skills and Training

Reduced training and opportunities for skill development have been associated with premature workforce exit (Temple et al., 2012; Barslund, 2015). One German longitudinal study showed that training programs were especially effective in prolonging employment for women on lower wages as they helped expand their earning potential (Berg et al., 2017). Another longitudinal study in Germany indicated that training for older workers was increasing, and that there was a positive association between training and job satisfaction (Zboralski-Avidan, 2015); which in turn is an important determinant of longer working life (Mein et al., 2000). According to a recent study of 3,000 Australians, older workers have an unmet need for training (Adair et al., 2016). Approximately one-third of those surveyed reported being unable to undertake further training due to employer reluctance, affordability and competing work commitments.

Emerging Factors and Workforce Participation

In addition to the established factors discussed, several additional, emerging factors may be important to extending working life, namely person-job fit, work-life conflict and work centrality. We selected person-job fit because it directly assesses the person-job dimension outlined by Topa et al. (2018). Likewise work-life conflict is a direct indicator of family pull and can be directly influenced by organizational and government policy. Finally, we examined work centrality because it cuts across all four dimensions. It is an individual or attitudinal factor which, if high, implies that other dimensions of life (e.g., family) are less central. As noted below, it is also linked to work-related factors such as commitment to the organization and job-related factors such as job satisfaction. Work centrality is also a variable of interest because it is one of the few work-related factors applicable to those not currently in the workforce; work centrality determines how individuals act both within and outside of the workplace (Alvesson et al., 2008).

While evidence remains wanting, existing research suggests these emerging factors show significant promise as influencers of employment behavior and preferences. Like age discrimination, these emerging variables can be classified as psychosocial because they capture psychological responses to the social organization of work.

Work Centrality

Work centrality is important to consider because it influences job attitudes and behaviors (Bal and Kooij, 2011). Work centrality refers to "individual beliefs regarding the degree of importance that work plays in their lives" (Walsh and Gordon, 2008, p. 46). Individuals with high work centrality identify more strongly with their work, and see work as more important in their life, than individuals with low work centrality. Research suggests that work centrality is positively associated with job satisfaction (Dutton et al., 2010) and work engagement (Schaufeli et al., 2008), and negatively associated with intention to retire (Harpaz, 2002). Additionally, work centrality appears to be especially important among older workers. Research by Armstrong-Stassen and Schlosser (2008) reveals that work centrality is positively related to older workers' orientations toward, and propensity to, engage in development activities at work. Relatedly, older workers with high work centrality are more motivated to invest in their relationship with the organization (forming relational rather than transactional psychological contracts) and to remain with the company (Bal and Kooij, 2011). According to Bal and Kooij (2011, p. 518), "people with high work centrality are able to negotiate a relational contract with the organization, which consequently makes them more satisfied with their job, more engaged in their work, and less inclined to leave the organization"; and the relationship between work centrality and psychological contracts is "especially strong for older workers."

Person-Job Fit

Person-job fit refers to the match between the abilities of a person and the demands of a job (Edwards, 1991). Research related to person-job fit indicates that the greater the congruence between the person and their job, the more positive the individual and organizational outcomes. Conversely, person-job misfit is associated with higher levels of depression (Caplan, 1987), lower job satisfaction and organizational commitment, and higher turnover intentions (O'Reilly et al., 1991) - each of which is associated with early retirement (Sejbaek et al., 2012). Moreover, other research suggests that individuals report greater intentions to leave their jobs (Maynard et al., 2006) and engage in job search behaviors when misfit exists (Feldman and Turnley, 1995). One study also suggests the relationship between person-job fit and job satisfaction may be stronger for older workers (Krumm et al., 2013). To date, research examining person-job fit has examined intention to leave and actual turnover, generally. The importance that person-job fit plays within the context of retirement decisions remains largely unknown.

Work-Life Conflict

Work-life conflict (WLC) refers to "a form of interrole conflict in which the role pressures from the work and family (and other non-work) domains are mutually incompatible in some respect" (Greenhaus and Beutell, 1985, p. 77). Longitudinal studies and meta-analyses show that WLC leads to lower levels of job satisfaction (Kossek and Ozeki, 1998; Shockley and Singla, 2011), low organizational commitment, and increased intentions to leave (Allen et al., 2000; Garcia et al., 2014). The meta-analysis of Allen et al. (2000) also showed that WLC may be responsible for poor health outcomes; a known influencer of early retirement (Australian Bureau of Statistics, 2017). However, fewer studies have examined WLC among older workers (Allen and Shockley, 2012) and its effects on their retirement decisions. One exception is a body of work based on the Wisconsin Longitudinal Study, where WLC was found to predict preferences to retire (Raymo and Sweeney, 2006) and early retirement (Kubicek et al., 2010). These authors found that the effects of WLC on early retirement were partly due to lower levels of job satisfaction (Kubicek et al., 2010), indicating a potential explanatory pathway. A cross-sectional study by Garcia et al. (2014) showed that increased WLC was associated with both preferences and intention to retire, illustrating that WLC may be an important determinant of employment participation and preferences among older workers.

Established and Emerging Factors as a Function of Gender and Financial Pressure

The research examining whether established and emerging factors differentially affect retirement decisions for men and women, or those experiencing different levels of financial pressure, remains under-developed, despite increasing research and policy interest in employment participation. We examine gender because women tend to retire earlier than men (De Preter et al., 2013; Australian Bureau of Statistics, 2017), possibly because of the cumulative effect established and emerging factors have on their employment participation (Baird et al., 2012). We examine financial pressure because of its relationship with employment participation. Those experiencing more or less financial pressure are inclined to face quite different options in relation to employment participation/retirement (Warren, 2015). Developing a greater understanding of these issues will enable us to create more effective, targeted policies directed toward promoting employment participation among older workers, while taking account of their gender and financial pressure.

Gender

Women are working longer, but they are still retiring earlier than men (Austen and Ong, 2013; Warren, 2015). Literature suggests that caring responsibilities tend to push women into retirement and encourage men to remain employed (e.g., Meng, 2012; O'Loughlin et al., 2017), fulfilling their traditional "carer" and "breadwinner" roles, respectively (Loretto and Vickerstaff, 2013). If these traditional gender roles are still being enacted, certain "push" factors (see De Preter et al., 2013) should have a greater effect on women's employment participation, relative to men's, as they compound existing social pressures on women to retire earlier. In support of this argument, studies suggest that having a spouse that is already retired (Moen et al., 2001), age discrimination (Australian Human Rights Commission, 2015) and poor mental health (Paradise et al., 2012) push more women out of the workforce than men. Thus, it is hypothesized that other established and emerging factors may have a similar effect.

Financial Pressure

There has been considerable focus on the factors that force financially disadvantaged workers out of employment, including their low occupational status (Radl, 2013) and the negative health effects of relatively hazardous working conditions (Pit et al., 2010). It is plausible that those under financial pressure are more likely to perceive retirement as unaffordable (McManus et al., 2007). In fact, the most commonly reported reason for returning to the workforce after initial retirement is "financial need" (42%) (Australian Bureau of Statistics, 2017). Thus, factors such as poor health, caregiving and work conditions may have a limited effect on employment decisions for workers who are under financial pressure because they have little choice but to remain at work (Garcia et al., 2014). The financial burden associated with caregiving and poor health may even intensify their need to continue working. In contrast, workers under relatively less financial pressure may prefer to leave work if their health is poor or if their working conditions are not to their liking (Garcia et al., 2014). Older workers are likely to make different decisions as a result of different levels of financial pressure; thereby demanding more nuanced and targeted policy responses in order to prolong employment.

Summary and Hypotheses

The literature reviewed suggests that both established and emerging factors will affect employment participation and preferences among older workers. Moreover, employment participation among older workers is likely to vary in accordance with their gender and financial pressures as predicted below.

Employment Status

Poor physical health, having an injury, caregiving, reports of age discrimination, poor mental health, and lower work centrality will:

H1a: Decrease the likelihood of being employed.

However, these relationships will be:

H1b: Stronger for women,
H1c: Stronger for those under less financial pressure.

Employment Preferences for Those Currently Employed

Poor physical health, having an injury, caregiving, reports of age discrimination, poor mental health, lower work centrality, person-job misfit and work-life conflict will:

H2a: Decrease the likelihood of preferring to remain employed.

However, these relationships will be:

H2b: Stronger for women,
H2c: Stronger for those under less financial pressure.

Employment Preferences for Those Currently Employed

Poor physical health, having an injury, caregiving, perceptions of insufficient job skills, reports of age discrimination, poor mental health, and lower work centrality will:

H3a: Decrease the likelihood of preferring to re-enter employment.

However, these relationships will be

H3b: Stronger for women,
H3c: Stronger for those under less financial pressure.

Post-GFC data is used to test the research hypotheses as it allows us to examine the relationships of primarily non-financial established and emerging factors with employment behaviors and preferences during a time when financial constraints would be expected to drive decision-making. Although Australia has arguably recovered from the GFC, it is facing increasing income inequality (Kaplan et al., 2018) and housing unaffordability (Daniel et al., 2018) that, if left unchecked, will create substantive financial pressure for those who cannot secure appropriate employment. As such, the findings will identify specific factors that may boost employment participation among older workers and facilitate the development of more effective policies for organizations and governments.

MATERIALS AND METHODS

Participants

This study is drawn from a larger project examining the health and workforce participation of Australians aged between 45 and 65. The national survey data reported here were collected using computer-aided telephone interviewing (CATI) between February and June 2009. An ISO and industry-accredited social research company selected a random sample, stratified for gender and age group. Contact information was drawn from a database containing telephone numbers for approximately 4.8 million Australian households. A demographic analysis of the database conducted by an independent demographic consultancy indicated that it was representative of the socioeconomic and geographic distribution of the Australian population, other than extremely isolated communities. The overall sample of 1,541 participants was stratified by employment status and age (860 in paid employment, 681 not in paid employment). Approximately 20% of those not in paid employment indicated they were actively looking for employment.

Measures

Dependent Variables

The three dependent variables were employment status (0 = not employed, 1 = employed), workers' employment preference (0 = prefer to retire, 1 = prefer paid work) and non-workers' employment preference (0 = prefer retirement, 1 = prefer paid work). In the survey, those in paid employment were asked if they would prefer to be retired (yes or no). Those not in paid work were asked to describe how important it was for them to have a paid job in the future (on a five-point scale from one to five). As the responses to this question were bi-modal, those scoring "1" or "2" were categorized as preferring retirement (coded 0) and the remainder were categorized as preferring paid employment (coded 1). These cut points were chosen to best balance the sample size for this dichotomous variable.

Independent Variables

The established variables included in this research are physical health, mental health, injury status, caregiving, age discrimination and perceived job skills. *Physical health* and *mental health* are assessed with composite scores derived from the SF-12 (Ware et al., 2002). Participants were also asked whether they have had an *injury* that limited their daily activities, and responses were coded "0" for injury and "1" for no injury. For *caregiving*, participants were asked whether they had a caring responsibility for a family member or friend, and responses were coded as either yes (coded 1) or no (coded 0). *Age discrimination* was assessed with the mean score of four items (Banas, 2007) on five-point scales (alpha = 0.81). These items assessed discrimination with respect to finding a job, being denied promotion, being denied a position of leadership or being in a lower-status position because of their age. Items were worded according to employment status. For example, those not currently working for pay responded to the statement, "Since my last job I have had difficulty finding employment because of my age," whereas those currently in employment were presented with the statement, "I have difficulty finding paid work because of my age." Those who were not employed were asked the extent to which they perceived *lack of skill* to be a barrier to re-entering employment. Responses were coded on a five-point scale with higher scores reflecting stronger perceptions of skill barriers to re-entering employment.

The emerging variables were work-life conflict, work centrality and person-job fit, which were all were assessed with five-point Likert scales ranging from strongly disagree (1) to strongly agree (5). *Work-life conflict* was measured with three items; (Kopelman et al., 1983: alpha = 0.65, e.g., "After work, I come home too tired to do some of the things I'd like to do"). *Work centrality* was assessed by responses to a single item: "I would enjoy having a paid job even if I did not need the money" (Svallfors et al., 2001). The acceptable use of single item measures to assess psychological constructs have been supported by Wanous et al. (1997) in their meta-analysis of single item measures for job satisfaction. For those currently in the workforce, self-reported *person-job fit* (Saks and Ashforth, 1997) was assessed with four items; for example, "My knowledge, skills, and abilities match the requirements of my job," "My job is a good match for me" (alpha = 0.83).

The moderating variables were gender and financial pressure. *Gender* was measured with a dichotomous variable coded "0" for female and "1" for male. *Financial pressure* was assessed with the mean score of three items (e.g., "I have money left over at the end of the month" and "I make just enough money to make ends

meet") from the Pressure, Disorganization and Regulatory Failure scale (alpha = 0.65) (Bohle et al., 2015). A median split on the financial pressure composite was used as a grouping variable to reflect higher and lower financial pressure groups.

The control variables were financial dependents, marital status, age, and years out of employment (for those not currently working for pay). Participants were asked how many of the people in their household were wholly, or partly, financially dependent on them. This four-point variable ranged from 0 to 3 or more financial dependents. *Marital status* was measured with a dichotomous variable (not married = 0, married = 1) and *age* was measured continuously in years. Those not currently in employment were also asked how many years they had been out of paid employment.

Analysis

Three binary logistic regressions (Mplus 7.1) were used to test the relationships between the independent variables and employment status, employment preferences for those currently in employment, and the employment preferences of those not in employment. These analyses were performed separately for men and women and for lower and higher financial pressure groups to test for moderation effects. Differences in cross-group unstandardized regression coefficients were tested with Mplus' multiple-group analysis using the recommended known-class approach (Muthén and Muthén, 2012, p. 20) in which cross-group unstandardized regression coefficients are forced to be equal. If the equality constraint significantly worsens the model fit, the two coefficients are considered statistically different and a moderation effect is inferred (Muthén and Muthén, 2012). Variables were selected for cross-group testing if the 90% confidence intervals for the unstandardized regression coefficients did not overlap, which indicates a statistically significant interaction effect (Payton et al., 2003).

RESULTS

Descriptive statistics for the study variables are shown in **Table 1**.

According to the bivariate correlations (**Table 2**), being in paid employment was associated with better physical health ($r = 0.29$, $p < 0.01$), mental health ($r = 0.15$, $p < 0.01$), fewer caregiving responsibilities ($r = -0.11$, $p < 0.01$), stronger work centrality ($r = 0.09$, $p < 0.01$) and less financial pressure ($r = -0.17$, $p < 0.01$). The preference to remain employed increased as physical health ($r = 0.12$, $p < 0.01$) and person-job fit improved ($r = 0.16$, $p < 0.01$). Higher levels of work centrality ($r = 0.34$, $p < 0.01$) and lower levels of work-life conflict ($r = -0.20$, $p < 0.01$) were also associated with the preference to remain employed. Employed caregivers also tended to prefer working ($r = 0.08$, $p < 0.05$). For those not currently employed, the preference to re-enter the workforce was associated with poorer mental health ($r = -0.15$, $p < 0.01$) and a positive evaluation of one's skills ($r = 0.11$, $p < 0.01$). Those wanting to return to work also tended to be under greater financial pressure ($r = 0.24$, $p < 0.01$) compared to those who preferred retirement. They also

TABLE 1 | Descriptive statistics according to employment status.

Variables	Level for categorical variables	*N* (percentage)	Mean (SD)
Dependent variables			
Employment status	Employed	860 (55.8)	
	Not employed	681 (44.2)	
Preference for those in employment	Prefers to be employed	543 (63.1)	
	Prefers to not be employed	317 (36.9)	
Preference for those not in employment	Prefers to be employed	325 (47.7)	
	Prefers to not be employed	357 (52.3)	
Independent variables			
Physical health (0–100) Full sample			45.61 (11.88)
Employed			48.63 (9.38)
Not employed			41.81 (13.5)
Mental health (0–100) Full sample			49.52 (10.66)
Employed			50.89 (9.64)
Not employed			47.79 (11.60)
Injury Full sample	Yes	328 (21.3)	
	No	1213 (78.7)	
Employed	Yes	172 (20.0)	
	No	688 (80.0)	
Not employed	Yes	156 (22.9)	
	No	525 (77.1)	
Caregiving Full sample	Yes	510 (33.1)	
	No	1031 (66.9)	
Employed	Yes	244 (28.3)	
	No	616 (71.6)	
Not employed	Yes	266 (39.1)	
	No	415 (60.9)	
Age discrimination (1–5) Full sample			1.67 (1.02)
Employed			1.68 (1.05)
Not employed			1.65 (0.98)
Insufficient skills (1–5) Not employed			2.72 (1.60)
Work centrality (1–5) Full sample			3.29 (1.42)
Employed			3.41 (1.34)
Not employed			3.15 (1.50
Person-job fit (1–5) Employed			3.97 (0.92)
Work-life conflict (5) Employed			2.62 (1.09)
Financial pressure Full sample			2.91 (1.17)
Employed			2.74 (1.17)
Not employed			3.14 (1.13)
Gender Full sample	Male	640 (41.5)	
	Female	901 (58.5)	
Employed	Male	397 (46.2)	
	Female	463 (53.8)	

(Continued)

TABLE 1 | Continued

Variables	Level for categorical variables	*N* (percentage)	Mean (SD)
Not employed	Male	243 (35.7)	
	Female	438 (64.3)	
Age Full sample			55.51 (5.49)
Employed			54.68 (5.10)
Not employed			56.56 (5.79)
Financial dependents Full sample	No dependents	921 (59.8)	
	One dependent	318 (20.6)	
	Two or more dependents	302 (19.6)	
Employed	No dependents	438 (50.9)	
	One dependent	204 (23.7)	
	Two or more dependents	218 (25.3)	
Not employed	No dependents	483 (70.9)	
	One dependent	114 (16.7)	
	Two or more dependents	84 (12.3)	
Marital status Full sample	Married/de facto	1017 (66.0)	
	Not living with partner	524 (34.0)	
Employed	Married/de facto	598 (69.5)	
	Not living with partner	262 (30.5)	
Not employed	Married/de facto	419 (61.5)	
	Not living with partner	262 (38.5)	
Years since last worked Not employed			7.93 (8.68)

reported higher levels of perceived age discrimination ($r = 0.25$, $p < 0.01$).

Employment Status by Gender (Hypotheses 1a and 1b)

For both men and women, the likelihood of being employed increased as physical and mental health improved, and rates of caregiving decreased (see **Table 3** for ORs). Contrary to expectations, higher perceived age discrimination increased the likelihood of being in paid employment for women, but there was no relationship for men. Having an injury increased the likelihood of men being out of the workforce, but not for women. Having financial dependents, a secure financial position, stronger work centrality and younger age increased the likelihood of being in paid employment for both sexes after controlling for other variables. However, multiple-group analysis showed no evidence of moderation according to gender.

Employment Status by Financial Pressure (Hypotheses 1a and 1c)

Better physical and mental health, a lack of caregiving responsibility and having financial dependents were associated with higher rates of employment for both high and low financial pressure groups (see **Table 4**). Additionally, the likelihood of being employed decreased with age. Higher levels of work centrality and not having an injury increased the likelihood of employment for the lower financial pressure group. Multiple-group analysis provided no evidence for the moderating effects of financial pressure.

Employment Preferences for Those in Paid Employment: Differences by Gender (Hypotheses 2a and 2b)

Good physical health and caregiving responsibilities were associated with the preference to be employed for males (see **Table 5**). Having financial dependents was a significant correlate of the preference to remain in employment for women. Work centrality was positively associated with employment preferences for men and women but decreasing work-life conflict and improving person-job fit were only associated with women's preferences to be employed. Moderation analysis showed that the relationship between caregiving and employment preferences was stronger for men (X^2 difference = 4.97, df = 1, $p < 0.027$), while the relationship between person-job fit and employment preferences was stronger for women (X^2 difference = 9.01, df = 1, $p = 0.003$).

Employment Preferences for Those in Paid Employment: Differences by Financial Pressure (Hypotheses 2a and 2c)

Physical health, caregiving responsibilities and work centrality were positively associated with preference to be employed for those under more financial pressure (see **Table 6**). For the lower-pressure group, workers with financial dependents, stronger work centrality, lower work-life conflict and higher person-job fit were independently associated with the preference to be employed. Moderation analysis suggested that work-life conflict was a stronger predictor of the preference to not remain employed for the lower-pressure group (X^2 difference = 5.15, df = 1, $p = 0.023$).

Employment Preferences for Those Not in Paid Employment: Differences by Gender (Hypotheses 3a and 3b)

Higher levels of perceived age discrimination in a previous job were associated with preferences to be re-employed among both genders (see **Table 7**). Higher levels of financial pressure, younger age, stronger work centrality and less time spent out of work were independently associated with men's and women's preferences to be re-employed. No interaction effects according to gender were identified.

TABLE 2 | Bivariate Pearson's correlations between all variables.

		1	2	3	4	5	6	7[1]	8	9	10	11[2]	12[2]	13	14	15	16	17[1]
Employment status	1																	
Employment preference (employed)	2	.																
Employment preference (not employed)	3	.	.															
Physical health	4	0.29**	0.12**	−0.02														
Injury (no)	5	0.04	0.08*	0.00	0.34**													
Caregiving (yes)	6	−0.11**	0.08*	0.07	−0.02	−0.07*												
Perceived job skills[1]	7	.	.	0.11**	−0.04	0.05	−0.01											
Mental health	8	0.15**	0.07*	−0.15**	0.12**	0.09**	−0.09**	−0.13**										
Age discrimination	9	0.02	−0.04	0.25**	−0.08**	−0.01	0.03	0.12**	−0.17**									
Work centrality	10	0.09**	0.34**	0.30**	0.00	0.03	0.04	0.05	−0.03	0.03								
Person-job fit[2]	11	.	0.16**	.	0.12**	0.08*	0.00	.	0.12**	−0.33**	0.23**							
Work-life conflict[2]	12	.	−0.20**	.	−0.14**	−0.15**	0.09**	.	−0.31**	0.12**	−0.13**	−0.14**						
Financial pressure	13	−0.17**	−0.05	0.24**	−0.23**	−0.09**	0.04	0.13**	−0.24**	0.22**	0.00	−0.14**	0.17**					
Gender (male)	14	0.11**	−0.06	0.03	0.06*	−0.04	−0.14**	−0.09*	0.08**	0.07**	−0.02	−0.09*	0.05	−0.03				
Financial dependents	15	0.21**	0.05	0.18**	0.15**	0.01	0.10**	0.00	−0.03	−0.01	0.06*	−0.05	0.18**	0.04	0.14**			
Age	16	−0.17**	0.02	−0.41**	−0.01	0.01	−0.04	−0.13**	0.13**	−0.04	−0.07**	0.10**	−0.17**	−0.74**	0.04	−0.35**		
Years out of work[1]	17	.	.	−0.20**	−0.15**	0.00	−0.03	0.21**	−0.01	−0.15**	−0.09*	.	.	0.00	−0.14**	−0.11**	0.07	
Marital status (married)	18	0.08**	0.04	−0.10*	0.14**	0.05	−0.04	−0.03	0.15**	−0.11**	−0.01	0.09**	0.00	−0.15**	0.10**	0.22**	0.04	−0.07

$^{**}p < 0.01$, $^{*}p < 0.05$. 1 = not employed sample (N = 681), 2 = employed sample (N = 860).

TABLE 3 | Logistic regression for the likelihood of being employed according to gender (*N* = 1,504).

	Women			Men		
	b	OR	ß	b	OR	ß
Physical health	0.04***	1.04	0.26	0.06***	1.06	0.32
Injury (yes)	−0.33	0.72	−0.06	−0.60*	0.55	−0.11
Caregiving (yes)	−0.50**	0.61	−0.12	−0.96***	0.39	−0.19
Age discrimination	0.25**	1.29	0.12	0.11	1.11	0.05
Mental health	0.02**	1.02	0.13	0.03**	1.03	0.12
Work centrality	0.16**	1.17	0.11	0.15*	1.16	0.09
Financial pressure	−0.25***	0.78	−0.14	−0.29**	0.75	−0.15
Financial dependents	0.41***	1.51	0.15	0.41**	1.50	0.15
Age	−0.04**	0.96	−0.11	−0.13***	0.88	−0.30
Marital status (married)	−0.26	0.77	−0.06	0.46*	1.59	0.09
Nagelkerke R^2	20.30			34.10		

*b, unstandardized regression coefficient; OR, odds ratio; ß, standardized regression coefficient, *p < 0.05, **p < 0.01, ***p < 0.001. Not in employment coded 0, in employment coded 1.*

Employment Preferences for Those Not in Paid Employment: Differences by Financial Pressure (Hypotheses 3a and 3c)

Increasing levels of perceived age discrimination were associated with the preference to re-enter the workforce for both groups (see **Table 8**). Higher levels of work centrality and younger age increased the likelihood that both groups would prefer to be employed. For the higher financial pressure group only, increasing time spent out of employment was associated with the preference to not be employed. Moderation analysis showed that this negative relationship was stronger for the group under greater financial pressure (X^2 difference = 4.27, df = 1, $p = 0.039$).

DISCUSSION

Partial support for the research hypotheses suggests that only selected established and emerging factors may play an important role in promoting employment participation among older workers. With respect to Hypotheses 1a and 2a, physical health, caregiving (established factors) and all three emerging factors were consistently associated with employment status and preferences, but injury and mental health status were not. Some of these relationships also varied according to gender and financial pressure. For women, there was a stronger relationship between person-job fit and the preference to remain in employment (Hypothesis 2b), whereas for men, caregiving increased their preference to remain employed. Work-life conflict was associated more with the preference to not be employed for workers who are under less financial pressure (Hypothesis 2c). Although there was no support for Hypotheses 3, the preference to re-enter employment decreased with time spent out of work for the high financial pressure group.

TABLE 4 | Logistic regression for the likelihood of being employed according to financial pressure (*N* = 1,504).

	Higher financial pressure			Lower financial pressure		
	b	OR	ß	b	OR	ß
Physical health	0.04***	1.04	0.27	0.06***	1.06	0.31
Injury (yes)	−0.32	0.73	−0.07	−0.56*	0.57	−0.10
Caregiving (yes)	−0.58**	0.56	−0.14	−0.66***	0.52	−0.15
Age discrimination	0.18*	1.20	0.10	0.11	1.12	0.05
Mental health	0.04***	1.04	0.20	0.02*	1.02	0.08
Work centrality	0.04	1.04	0.03	0.23***	1.26	0.16
Gender (male)	0.05	1.05	0.01	0.31	1.36	0.07
Financial dependents	0.56***	1.75	0.22	0.24*	1.27	0.09
Age	−0.04*	0.96	−0.10	−0.09***	0.91	−0.24
Marital status (married)	−0.10	0.91	−0.02	0.06	1.07	0.01
Nagelkerke R^2	21.40			24.70		

*b, unstandardized regression coefficient; OR, odds ratio; ß, standardized regression coefficient, *p < 0.05, **p < 0.01, ***p < 0.001. Not in employment coded 0, in employment coded 1.*

TABLE 5 | Logistic regression for employed participants: likelihood of preferring to remain in employment according to gender (*N* = 824).

	Women			Men		
	b	OR	ß	b	OR	ß
Physical health	0.01	1.01	0.06	0.03*	1.03	0.13
Injury (yes)	−0.02	0.98	0.00	0.31	1.36	0.06
Caregiving (yes)#	0.03	1.03	0.01	0.93**	2.54	0.19
Age discrimination	0.16	1.17	0.08	0.00	1.00	0.00
Mental health	0.00	1.00	−0.01	0.00	1.00	0.01
Work centrality	0.66***	1.94	0.40	0.41***	1.51	0.27
Work-life conflict	−0.51***	0.60	−0.25	−0.25*	0.78	−0.14
Personal-job fit#	0.49***	1.64	0.20	−0.09	0.91	−0.04
Financial pressure	−0.05	0.96	−0.03	0.01	1.01	0.00
Financial dependents	0.45*	1.56	0.16	−0.04	0.97	−0.02
Age	0.02	1.02	0.04	0.00	1.00	0.00
Marital status (married)	−0.13	0.88	−0.03	0.43	1.53	0.09
Nagelkerke R^2	34.40			16.80		

*b, unstandardized regression coefficient; OR, odds ratio; ß, standardized regression coefficient, *p < 0.05, **p < 0.01, ***p < 0.001. #Denotes significant interaction effect. Prefer to not be employed coded 0, prefer to be employed coded 1.*

Established Factors

In terms of the established determinants of employment participation and preferences, good physical health was among the strongest correlates of workforce participation, regardless of gender or financial pressure, as shown in other studies (e.g., Pit et al., 2010; Topa et al., 2018). While this finding is consistent with literature suggesting that poor health forces people into

TABLE 6 | Logistic regression for employed participants: likelihood of preferring to remain in employment according to financial pressure (N = 824).

	Higher financial pressure			Lower financial pressure		
	b	OR	ß	b	OR	ß
Physical health	0.03*	1.03	0.17	0.02	1.02	0.06
Injury (yes)	0.00	1.00	0.00	0.12	1.13	0.02
Caregiving (yes)	0.76*	2.15	0.18	0.07	1.07	0.01
Age discrimination	0.04	1.04	0.02	0.09	1.09	0.04
Mental health	0.01	1.01	0.07	0.00	1.00	0.01
Work centrality	0.39***	1.47	0.26	0.62***	1.86	0.38
Work-life conflict#	−0.14	0.87	−0.08	−0.52***	0.60	−0.25
Personal-job fit	0.07	1.07	0.03	0.26*	1.30	0.11
Financial dependents	−0.06	0.94	−0.03	0.35*	1.43	0.13
Age	−0.04	0.96	−0.09	0.03	1.03	0.06
Gender (male)	−0.04	0.96	−0.01	−0.25	0.78	−0.06
Marital status (married)	−0.15	0.86	−0.04	0.20	1.22	0.04
Nagelkerke R^2	16.00			31.10		

*b, unstandardized regression coefficient; OR, odds ratio; ß, standardized regression coefficient, *p < 0.05, **p < 0.01, ***p < 0.001. #Denotes significant interaction effect. Prefer to not be employed coded 0, prefer to be employed coded 1.*

TABLE 7 | Logistic regression for currently not employed participants: likelihood of preferring to re-enter employment according to gender (N = 678).

	Women			Men		
	b	OR	ß	b	OR	ß
Physical health	0.00	1.00	−0.01	0.03	1.03	0.13
Injury (yes)	−0.02	0.98	0.00	0.23	1.26	0.04
Caregiving (yes)	0.22	1.25	0.05	−0.41	0.67	−0.07
Lack skills	0.10	1.11	0.07	0.10	1.11	0.06
Age discrimination	0.47**	1.60	0.16	0.44**	1.55	0.19
Mental health	0.01	1.01	0.05	0.00	1.00	−0.01
Work centrality	0.42***	1.52	0.27	0.34**	1.40	0.19
Financial pressure	0.26**	1.30	0.13	0.51**	1.67	0.22
Financial dependents	0.26**	1.30	0.07	0.31	1.36	0.09
Age	−0.13***	0.88	−0.33	−0.20***	0.82	−0.41
Marital status (married)	−0.22	0.81	−0.05	−0.42	0.66	−0.08
Years since last worked	−0.05***	0.95	−0.19	−0.05***	0.95	−0.13
Nagelkerke R^2	41.00			50.00		

*b, unstandardized regression coefficient; OR, odds ratio; ß, standardized regression coefficient, *p < 0.05, **p < 0.01, ***p < 0.001. Prefer to not be employed coded 0, prefer to be employed coded 1.*

TABLE 8 | Logistic regression for currently not employed participants: likelihood of preferring to re-enter employment, according to financial pressure (N = 678).

	Higher financial pressure			Lower financial pressure		
	b	OR	ß	b	OR	ß
Physical health	0.01	1.01	0.07	−0.01	1.00	−0.03
Injury (yes)	0.21	1.23	0.04	0.02	1.02	0.00
Caregiving (yes)	0.16	1.17	0.03	−0.08	0.93	−0.02
Lack skills	0.12	1.12	0.08	0.08	1.08	0.06
Age discrimination	0.61***	1.84	0.26	0.33	1.39	0.11
Mental health	0.01	1.01	0.05	−0.01	0.99	−0.03
Work centrality	0.36***	1.43	0.22	0.43***	1.54	0.28
Gender (male)	0.26	1.30	0.05	−0.09	0.91	−0.02
Financial dependents	0.23	1.26	0.07	0.39	1.48	0.12
Age	−0.14***	0.87	−0.34	−0.15***	0.86	−0.36
Marital status (married)	−0.21	0.81	−0.04	−0.47	0.62	−0.10
Years since last worked#	−0.07***	0.93	0.26	−0.02	0.98	−0.07
Nagelkerke R^2	45.40			36.50		

*b, unstandardized regression coefficient; OR, odds ratio; ß, standardized regression coefficient, *p < 0.05, **p < 0.01, ***p < 0.001. #Denotes significant interaction effect. Prefer to not be employed coded 0, prefer to be employed coded 1.*

retirement (Dwyer and Mitchell, 1999), our additional analyses revealed the importance of gender and financial pressure in this relationship. For example, workers experiencing greater financial pressure, and men, were more likely to prefer to remain in employment if they were in better health, but there was no relationship among wealthier participants or women. Likewise, physical health had no bearing on participants' preferences to re-enter the workforce irrespective of financial pressure or gender.

The other significant factor among the established determinants was caregiving. In line with previous research (Fine, 2012; Australian Human Rights Commission, 2013), caregiving was among the strongest correlates of non-employment for men and women, across both financial pressure groups. However, the relationship between caregiving and workers' preferences to remain employed was stronger for men. This is consistent with prior research demonstrating that men are less likely to reduce hours or exit the workforce due to caregiving (Kröger and Yeandle, 2013), whereas women experience greater social pressure to give up work to provide care (Fine, 2012).

Although correlations indicated that the likelihood of being employed increased as mental health improved, consistent with extant research (e.g., Laaksonen et al., 2012), there was no association between mental health and retirement preferences in the regression analysis. It is likely that the relationship between mental health and employment preferences was explained by higher rates of caregiving, greater financial pressure, work-life conflict, lower person-job fit and perceived skill deficiency found in those with poorer mental health. Contrary to the findings of Paradise et al. (2012), there was no evidence to suggest that mental health affects employment participation and preferences in different ways for men and women.

Interestingly, injury was associated with employment status, but not preferences for employment. Having an injury increased the likelihood of men being out of the workforce, but not of women. This finding conflicts with earlier research (Crook et al., 1998), which indicated that return to work after an

injury is slower for women compared to men. A possible explanation may relate to the strong physical demands associated with male-dominated occupations, such as construction, mining and manufacturing. Additionally, physically demanding work is likely to be more significant for mature-aged workers because physical work capacity (impacted by changes in cardiovascular and musculoskeletal capacity) declines with increasing age, and after 50 years the deterioration is more marked (Ilmarinen, 2001). In contrast, not having an injury increased the likelihood of employment among those experiencing less financial pressure. This finding is consistent with pre-existing literature, and echoes evidence indicating that people with greater financial resources consistently have better health outcomes than those with fewer resources (Smith, 2004).

The results suggest that although a lack of skill may be perceived as a barrier to re-employment, it has no influence on preferences to be re-employed. At face value, this appears inconsistent with previous research (e.g., Berg et al., 2017). However, these studies examined job skills and training as avenues for keeping people in work, rather than pulling people out of retirement. Perceived skill deficits were positively associated with reports of age discrimination, poor mental health and financial pressure, suggesting it may function as an indicator of broader disadvantage. Therefore, job skill development programs that are designed to keep workers in employment could target these groups.

Age discrimination showed weak but significant correlations with employment status and preferences to re-enter employment, but in the opposite direction to that expected based on pre-existing findings (e.g., von Hippel et al., 2011). For females, and those in financially adverse circumstances, age discrimination marginally increased the likelihood of being in employment. Higher levels of discrimination were associated with the preference to re-enter the workforce for both genders and in the higher financial pressure group. These findings may reflect the heightened salience of age discrimination for those seeking re-employment, whereas age discrimination is less salient to those who are not actively seeking re-employment. It is also important to note that, for those not currently employed, the measure may not have captured aspects of discrimination that led to premature retirement, particularly given the silent manner in which discrimination operates (Australian Human Rights Commission, 2015).

Emerging Factors

Work centrality was associated with employment participation and preferences; a finding that is consistent with other studies demonstrating that high work centrality is associated with lower turnover (Bothma and Roodt, 2012) and intention to retire (Harpaz, 2002). Some studies suggest that work centrality declines as people approach retirement age (Misumi and Yamori, 1991). However, in our relatively narrow sample of 45- to 65-year olds, there were only minor differences according to either age, years out of employment or employment status. Pending further research, this finding suggests that work centrality could function as a widely relevant intervention point for those in the second half of their working life.

Person-job fit was associated with the preference to remain in employment. While prior literature indicates that person-job fit impacts job satisfaction, organizational commitment (O'Reilly et al., 1991) and intention to leave one's job (Maynard et al., 2006), it may also precipitate early retirement. However, after controlling for the other established and emerging factors, the relationship between person-job fit and preference to remain in employment was only significant for women and those under less financial pressure. This finding could reflect pressure on women to retire early (Loretto and Vickerstaff, 2013); in order to continue working, a woman's job has to fit with her non-work commitments.

Consistent with the literature (Kubicek et al., 2010; Garcia et al., 2014), WLC was associated with the preference to leave employment for all groups except those under financial pressure. For this group, retirement may be more likely to be perceived as unaffordable. Therefore, factors such as reduced work-life conflict may be less salient drivers for staying employed than, for instance, a caregiving commitment (see **Table 6**). In line with the meta-analysis of Allen et al. (2000), WLC was also associated with poorer health outcomes as well as lower work centrality and person-job fit, representing potential intervention points, as discussed below.

Implications

These findings are central to facilitating the development of more targeted initiatives to promote older workers' employment participation. In terms of developing organizational initiatives, our findings highlight the importance of leveraging the established and emerging factors identified in this study. More specifically, workplace policies need to address physical health and injury, caregiving, age discrimination, work centrality, work-life conflict and person-job fit.

Organizational policies related to occupational health and safety (OHS) may be especially important in promoting physical health and avoiding injuries among workers, along with employee assistance programs (EAP) related to maintaining health through exercise and diet (Grunseit et al., 2017). Our findings suggest that such policies and programs should be targeted, in particular, toward men and workers under greater financial pressure because improved physical health among these groups is likely to contribute to their continued employment participation.

In Australia, the legal right to request flexible work arrangements has been extended to specifically include older workers (aged 55+ years) and those with carer responsibilities for older people or those with a disability/illness (Cooper and Baird, 2015). However, there is no guarantee that a request will be granted or that it will be implemented consistently across workplaces. Our findings suggest that organization-specific caregiver policies could contribute to older men and women participating more strongly in employment, and enable women and those under greater financial pressure to continue participating in employment for longer periods of time. Such caregiver policies should encompass flexible working-time arrangements and assistance/advice regarding provision of care for dependents and/or onsite care options (Baird et al., 2012;

Cooper and Baird, 2015). To facilitate and prolong employment participation among older workers, age discrimination needs further and systematic consideration at both the policy and organizational level to address what appear to be persistent ageist attitudes and behaviors in workplaces (Australian Human Rights Commission, 2015; O'Loughlin et al., 2017).

The provision of flexible work arrangements is also one of a number of strategies for reducing work-life conflict and promoting employee wellbeing more generally (e.g., Anderson et al., 2002; Zheng et al., 2016). Specific examples include the provision of increased schedule control (Kelly et al., 2011), supervisor support (Anderson et al., 2002) and organizational support in balancing work and family commitments (Anderson et al., 2002; Kossek et al., 2011). However, as Malbon and Carey (2017) suggest, such arrangements can be detrimental to health if they inadvertently create longer working hours, reduce separation between home and work life, or if they lead to insecure ("flexible") working conditions. These facets of flexible work arrangements should therefore be considered in the design of new interventions.

Organizations can strengthen work centrality through the enhancement of job resources, such as social support at work, career-building opportunities, participation in decision-making and performance feedback (De Braine and Roodt, 2011). Other research suggests that work design and job enrichment processes can be used to enhance work centrality, particularly via increased job autonomy, interest, variety and responsibility (Sharabi and Harpaz, 2010). Our findings suggest that such initiatives will be useful in promoting employment participation among all older workers, regardless of gender or financial pressure.

Additionally, organizations can improve person-job fit by paying greater attention to "fit" during recruitment and selection activities (e.g., through enhanced anticipatory socialization processes) (Anderson and Ostroff, 1997), and focusing on redesigning jobs to improve job-holder fit and/or engaging in training to improve the skills, knowledge and abilities of the job-holder to ensure better fit (Bauer et al., 1998; Maynard et al., 2006; Kalleberg, 2008; Truxillo et al., 2012). Increasing fit may produce particular benefits for women and those experiencing less financial pressure, thereby increasing their employment participation.

For wealthier workers and women in particular, the main drivers of employment preferences were WLC, work centrality and person-job fit, even during a period of financial pressure created by the GFC. This pattern of results supports previous calls to focus on improving the psychosocial work environment as a potential government initiative to prolong employment, rather than increasing the pension age (Taylor et al., 2014; Davies et al., 2017; Noone and Bohle, 2017). Indeed, policies in other countries, including Great Britain (Health Safety Executive, 2000) and Canada (Canadian Standards Association, 2013), incorporate the psychosocial work environment into strategies to promote worker health, albeit without a specific focus on older workers. Such initiatives would complement emerging government-backed Australian programs to promote workers' mental health, including Beyond Blue, 2016 and Safe Work Australia's older workers program (Butterworth et al., 2017). However, it is becoming increasingly clear that collaboration will be required to achieve this goal (Australian Government, 2014), particularly through the provision of an evidence base and policy to assist employers in creating healthy workplaces.

Although Topa et al.'s (2018) model was used more for variable selection than theory testing, our findings do provide some useful insights for their model. With greater statistical control in place, aspects of the work environment (person-job ft) family pull (caregiving, work-life conflict) and individual factors (health, work centrality) were all independently associated with employment preferences depending on gender and financial pressure. This means that no dimension can be singled out as most important. Although further research is needed, one implication is that interventions could be particularly effective if they are holistic, treating individual circumstances, family life and working environment as inter-related rather than discrete components.

Findings also suggest the importance of a multi-disciplinary or multi-level approach to improving employment participation. The emerging factors, which cover psychological responses to the work environment, were equally as important as socioeconomic (i.e., financial pressure) and sociodemographic factors (e.g., caregiving) as potential influencers of employment status and preferences. This suggests that future research should better explore the psychological mechanisms involved in retirement decision making. For example, future time perspective, self-efficacy and decision-making style may act as potential mediators in the antecedent – employment decision relationship. To date, psychological factors like these have been largely studied in relation to retirement planning (Earl et al., 2015; Rafalski and Andrade, 2016) rather than the specific decision to work or retire. Indeed, Topa et al.'s (2018) meta-analysis of antecedents for early retirement did not examine any psychological factors excepting mental health. This is important because further study into psychological mechanisms could reveal new opportunities for intervention and policy change.

The findings of this research offer insight into the variables associated with older Australians' employment participation and preferences, with potential implications for improved management practices and policy development. However, the study has notable limitations that could be addressed in future research. In terms of methodology, the cross-sectional design limits inferences of causality and raises the possibility that common method variance influenced the results (Podsakoff et al., 2003). These limitations could be avoided by using longitudinal and mixed methods designs. Further, although work centrality emerged as an important factor associated with participation and preferences, additional information may be needed to implement direct management or policy intervention. For instance, interventions to increase work centrality may be enhanced by developing better understanding of its correlates and antecedents, such as gender and parental identities, parental responsibilities, and job satisfaction (Mannheim et al., 1997; Gaunt and Scott, 2017), and identifying those most likely to respond to intervention. Other limitations that should be acknowledged are the use

of dichotomous variables (Cohen, 1983) and the inability to determine the importance of particular established and emerging factors across different industries. This is an important topic for future research along with cross-national research to test the generalizability of the findings and sociological enquiry into generational change in gendered push factors.

In sum, this research makes an important contribution as it identifies a set of established and emerging factors that may promote workforce participation for older workers, depending on their gender and financial circumstances. Subsequently, these findings will facilitate the development of organization and government policies that more precisely target older workers, including their gender and financial circumstances, in order to prolong older workers' employment participation. Pending further research, these findings reflect critical focal points that may prolong employment and encourage working longer; thereby creating more viable employment options that will reduce rates of involuntary retirement.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of the National Statement on Ethical Conduct in Human Research (2007), the University of Sydney Human Research Ethics Committee with verbal informed consent from all subjects via telephone interview. All subjects gave verbal informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the University of Sydney Human Research Ethics Committee.

AUTHOR CONTRIBUTIONS

JN conceptualized the manuscript, performed the statistical analysis, and contributed to writing the literature review, method, results, and discussion sections. AK assisted in the conceptualization of the manuscript and contributed to writing the literature review and discussion sections. KO assisted in the conceptualization of the manuscript and contributed to writing the literature review and discussion sections. MMN assisted in the conceptualization of the manuscript, managed the data collection, and contributed to writing the method and introduction sections. PB contributed to conceptualization and development of the manuscript, led the research project, and was a chief investigator on the related grant. MM contributed to writing the introduction and discussion sections.

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Please Don't Look at Me That Way. An Empirical Study Into the Effects of Age-Based (Meta-)Stereotyping on Employability Enhancement Among Older Supermarket Workers

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At present, individuals increasingly have to take ownership of their working lives. This situation requires them to self-manage and plan their careers. However, individuals' career management does not happen in a vacuum. Studies have therefore stressed the importance of organizations introducing Sustainable Human Resource Management to share the responsibility for individuals' employability. This is expected to motivate especially disadvantaged workers, such as older workers (≥ 50 years) and those working in lower-skilled jobs, to work longer across the life-span. In view of the growing scholarly and societal attention for Sustainable Career Development (SCD), the present study examines the relationships between workers' chronological age (comparing older workers with younger and middle-aged groups, respectively) and dimensions of self-reported employability, and how perceptions of negative (meta-)stereotyping regarding older workers' productivity, reliability, and personal adaptability moderate these relationships. To examine how possible underlying psychological mechanisms can affect individuals' labor market decisions and behaviors, we developed hypotheses derived from socio-emotional selectivity and self-categorization theory, which we tested using data collected among supermarket workers in various age groups (N = 98). Moderated regression analyses showed that, in line with our hypotheses, perceptions of negative age-based (meta-)stereotyping amplifies the negative effect of older workers' age on their self-perceived employability. In particular, we found that: (1) the older worker group reported lower levels of three of the distinguished employability dimensions (i.e., anticipation and optimization, corporate sense, and balance, but not occupational expertise and personal flexibility) and (2) perceptions of stronger negative (meta-)stereotypes regarding older workers in the organization had a moderating effect on the relationship between age group and four of the distinguished employability dimensions (i.e., occupational expertise, anticipation and optimization, corporate sense, and balance, but not personal flexibility). We conclude that age group membership as well as negative age-based (meta-)stereotypes deter older workers from

enhancing their employability, which may potentially impact their career decisions and opportunities, especially in view of swift changing labor market demands. We argue, therefore, that Sustainable HR practices should focus on opposing negative age-based (meta-)stereotyping and on creating an inclusive work climate, meanwhile enhancing workers' ambitions and career opportunities over the life cycle.

Keywords: career development, diversity climate, employability, HRM, (meta-)stereotyping, older workers

INTRODUCTION

De Prins et al. (2015) notion of Sustainable Career Development (SCD) emphasizes the need for *respect* for internal organizational stakeholders (i.e., workers); *openness* or environmental awareness, including an outside-in and inside-out perspective on Human Resource Management (HRM); and *continuity* or a long-term approach to economic and societal sustainability and to employability enhancement, an important condition for individuals' financial self-sufficiency (De Vos et al., 2016). In this study, we particularly focus on employability, viewed as an important factor in SCD, as this capacity enhances individuals' labor market opportunities (Van der Heijde and Van der Heijden, 2006). Employability has become an important topic, especially in view of a combination of several trends, such as the increasing ageing and dejuvenization of the workforce (Shultz and Adams, 2012), the associated rise of the legal age of retirement and, hence, the need for individuals to work longer over the life course. In this context, it is also worth mentioning the fierce competition in globalizing markets, driven by technological change, such as ongoing automation, which demands both organizations and individuals to become more agile and adaptable (Brynjolfsson and McAfee, 2011). In fact, those workers who don't adapt well may experience social exclusion (De Vos and Van der Heijden, 2015), which may also have severe financial consequences for them. In order to motivate and enable individuals to take ownership of having a sustainable career and to be financially self-sufficient, organizations may need to develop HR strategies that both stimulate and support longer working over the life cycle.

SCD focusses on workplace inclusion of all workers (De Prins et al., 2015), which may require organizations to pay particular attention to disadvantaged worker categories who are otherwise at risk of being excluded from organizational career support. It has been acknowledged, for example, that the employability of older workers in various work environments, and how this is being influenced by psychological mechanisms, demands more attention (cf. Froehlich et al., 2015). Particularly in view of the trends mentioned above, maintaining and enhancing older workers' employability to motivate and enable them to work longer over the life cycle (cf. Dordoni et al., 2017) is a challenge for all types of working organizations. However, this may especially hold true for organizations employing older workers in lower skilled work (Frey and Osborne, 2013), such as those being in jobs characterized by manual and routine-based service work. Their tasks and responsibilities may be subject to technological developments, which make their work redundant, demand for different skill sets, and ask for higher levels of adaptability. Therefore, this study addresses older workers holding lower-skilled jobs.

More specifically, this study examines the impact of workers' age group membership [(younger (< 30 years old); middle-aged (30 to 49 years old); and older (50 to 67 years old)] on their self-reported employability, and how the alleged negative relationship between older age group membership and self-reported employability may be amplified by perceptions of negative (meta-)stereotyping regarding older workers (cf. Henkens, 2005). We build on two theories: socio-emotional selectivity theory (SST) (Carstensen et al., 1999; Carstensen, 2006) and self-categorization theory (Turner, 1982; Tajfel and Turner, 1986). First, Socio-emotional Selectivity Theory (SST) comprises a useful framework since it focuses on changes in workers' perceptions of time and future opportunities (in their work and in other life spheres) which may result in changes in their motives to engage in social interaction. More specifically, SST expects that over the life cycle workers will become more intrinsically motivated (e.g., being more focused on affective goals, such as generativity, emotional intimacy, and feelings of social embeddedness) and less extrinsically motivated (e.g., being less focused on instrumental goals, such as social status, social acceptance and professional learning and development) (Lang and Carstensen, 2002; Akkermans et al., 2016). The more "limited time perspective" that is experienced by older workers can therefore be expected to have consequences for their motivation to invest in future employability and career-enhancing activities. Second, self-categorization theory (SCT) is also a useful theory in the light of our study as it addresses the processes by which people form cognitive representations of themselves and others in relation to different social groups (Turner, 1982; Tajfel and Turner, 1986) and helps to understand why (meta-)stereotyping may occur. Stereotyping is a well-known phenomenon which implies that outgroup members (e.g., younger workers) use systematic cognitive generalizations about individuals which are based on the ingroup to which those individuals belong (e.g., older workers) without taking into account possible differences across individuals within that group. Although this may be an efficient way to make judgments about the ingroup members' attitudes and behaviors, it can lead to biased judgments (Nahavandi et al., 2015). In a related vein, ingroup members' beliefs with regard to the outgroup members' cognitive generalizations regarding the ingroup (e.g., older workers) can be referred to as "meta-stereotypes" (Vorauer et al., 1998; Owuamalam and Zagefka, 2011, 2014).

Based on the outcomes of our empirical analysis, we conclude by presenting recommendations for SCD that enable key parties

(i.e., direct supervisors, top management, and HRM specialists) in organizations to oppose negative effects of (meta-)stereotyping in general, and age-based (meta-)stereotyping in particular. We will also address implications for the important role that might be played by individuals themselves and their line managers, and will go into the role of social dialogue, in particular in the light of SCD across the life-span.

THEORY AND HYPOTHESES

Conceptualizing Employability and Its Dimensions

The definition for employability adopted in this study comprises individuals' "capacity of continuously fulfilling, acquiring, or creating work through the optimal use of competences" (Van der Heijde and Van der Heijden, 2006, p. 453). This capacity enables individuals to create, maintain, or find employment within or outside their current work contexts (Van der Heijde and Van der Heijden, 2006). In this study, we focus on individuals' self-perceived employability, as individuals' perceptions are the main drivers of their behavior (Katz and Kahn, 1978). To remain employable and ensure life-long employment and personal career success (De Vos et al., 2011), individuals need to continuously focus on and develop those competences that are needed in the labor market, which may go beyond their domain-specific expertise. Therefore, individuals also need to develop more general competences which allow them to be proactive and flexible, cope with ambiguity, and manage multiple tasks. These competences correspond to what Hall (2004), in his Protean Career theory, refers to as "meta-competences" which are important for continuous learning and enable individuals to stay employable. Since employability can therefore not be seen as a unidimensional construct, in line with Van der Heijde and Van der Heijden (2006), in this study five competence-based employability dimensions are distinguished.

The first dimension relates to domain-specific *occupational expertise* (i.e., knowledge, skills, including meta-cognitive ones, and social recognition by relevant others), whereas the other four dimensions, *anticipation and optimization*, *personal flexibility*, *corporate sense*, and *balance*, relate to more general, job and career related competences. Anticipation and optimization as well as personal flexibility refer to individuals' competence to adapt to changing labor market needs. The first dimension, specifically, refers to the individual being proactive and creative in adjusting to changing (internal or external) labor market needs, whereas the second dimension refers to the individual being more passive and reactive in this regard. Corporate sense refers to individuals' social competences, such as displaying team and organizational commitment and network activities to build strong relationships that can be used by individuals to continuously fulfill, acquire, or create new opportunities for gainful employment. In conclusion, balance means that individuals have the competence to reconcile different elements in the work and/or non-work domains that may be difficult to unite and require fine-tuning. For example, individuals have to continuously balance their current and future work-related (career) goals, their own and their employers' interests, and their work, career, and non-work interests (Van der Heijde and Van der Heijden, 2006).

The Relationship Between Age Group Membership and (Self-Perceived) Employability

It can be argued that older workers have gained more work experience and competences over the life-span than their younger counterparts (Froehlich et al., 2015). However, this does not necessarily predict their self-perceived employability to be higher. Building on SST (Carstensen et al., 1999; Carstensen, 2006), older workers can be expected to be less motivated to invest in their employability, since they attach less value to opportunities for advancement and continuous learning (Kooij et al., 2011). SST states that individuals may either have an open or a limited perspective regarding their remaining time at work and their future career opportunities. In the latter case, they focus more on time constraints and reduced opportunities in work and the rest of life (Zacher and De Lange, 2011), which influences their work motivation. Although Carstensen (2006) stresses that an individual's subjective time horizon should be viewed as a construct that needs to be distinguished from chronological age, the literature generally shows chronological age and future time perspective to be highly correlated (Lang and Carstensen, 2002; Akkermans et al., 2016). When workers have a more limited future time perspective, which is more likely the case for older than for younger workers, they tend to select and set goals that provide emotional well-being and that can be achieved in the shorter run. In a similar vein, it can be argued that when time is perceived to be more open-ended, adjusting to changes in one's work and occupation, and acquiring up-to-date employability, may be perceived as more rewarding. Therefore, we argue that it is likely that individuals' focus on employability changes over the life course. Based on this, it can be posited that older workers expect less return on investment in employability enhancement, as they will be closer to their pension age, in comparison with younger workers. Anticipating this, they may be less motivated to maintain and enhance their employability.

The Moderating Role of Negative (Meta-)Stereotyping Regarding Older Workers in the Relationship Between Older Age Group Membership and (Self-Perceived) Employability

Individuals' attitudes, motivations, experiences, feelings and behaviors (Kunze et al., 2011; cf. Boehm et al., 2014) regarding investing in employability may be affected by their perceptions of the age-biased climate in their organization, which refers to the process of systematic stereotyping and discrimination against workers merely on the grounds of their age group membership (ibid.). Finkelstein and Farrell (2007) distinguished three age-bias components: (1) the cognitive component, referred

to as "stereotyping;" (2) the affective component, referred to as "prejudice;" and (3) the behavioral component, referred to as "discrimination." Age-based stereotyping, focused on in this study, generally refers to organizational members' perceptions about the age-related cognitions at the aggregate organizational level. Such perceptions result from interpersonal processes and events between managers and supervisors, coworkers, and, if applicable, clients. On the one hand, older age group members may for example be perceived as less productive, less capable or willing to adopt new technologies, or less committed to organizational change than their younger counterparts (Henkens, 2005). On the other hand, older age group members may be perceived as more experienced, more loyal to their organization, or more trustworthy (Henkens, 2005).

Building upon self-categorization theory (Turner, 1982; Tajfel and Turner, 1986), we posit that older workers themselves may be aware of, or may perceive negative stereotypes regarding their age group (e.g., from their managers, coworkers, or clients; see also Crocker et al., 1998). In fact, older workers may have formed their own opinion about how the age groups they belong to is perceived by outgroup members (Sigelman and Tuch, 1997) and may even identify with the perceptions they hold of outgroup members' beliefs toward them. The beliefs regarding the stereotypes that outgroup members may hold about them can be referred to as meta-stereotypes, which often have a negative character (Vorauer et al., 1998), and can, therefore, reduce the degree of self-worth of the stereotyped group (Owuamalam and Zagefka, 2011, 2014). Importantly, however, meta-stereotyped views held by ingroup members do not have to be in line with the actual beliefs that the outgroup members hold of them (cf. Finkelstein et al., 2013). Yet, they determine how individuals view the world (Owuamalam and Zagefka, 2013).

When older workers perceive that their age group is negatively stereotyped, they may experience anxiety or anger (King et al., 2008), which in turn may influence their work outcomes (Ryan et al., 2015). In such situations, older workers may find it difficult to hold positive views about themselves, possibly affecting their self-perceived employability. Consequently, the older workers may also perceive that they have less opportunities and more limitations to develop their employability (cf. Froehlich et al., 2015), which can become a *self-fulfilling prophecy* (Merton, 1948). Hence, when older workers engage in meta-stereotyping, it can both affect their self-perceived employability, and can reduce their motivation to further invest in developing or maintaining their employability, herewith creating a vicious circle (cf. Branscombe et al., 1999; Schmitt et al., 2002; Dordoni et al., 2017).

Based on the psychological mechanisms presented above, we propose the following (see also **Figure 1**):

Hypothesis 1: Older workers report lower levels of employability than their younger counterparts.

Hypothesis 2: Negative (meta-)stereotyping regarding older workers' productivity, reliability and personal adaptability amplifies the negative effect of older workers' age on their self-perceived employability.

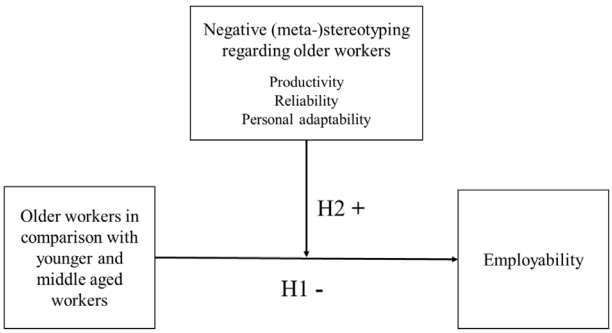

FIGURE 1 | Conceptual model presenting the moderating role of negative (meta-)stereotyping regarding older workers in the relationship between older age group membership and self-perceived employability.

MATERIALS AND METHODS

Sample and Procedure

Data (N = 98) were gathered in seven branches of a large Dutch supermarket chain employing 1,240 shop-floor workers. Our contact person, supporting the field work, indicated that in view of the contextual developments mentioned in the Introduction, HRM aimed to improve the position of older age group members in the organization by enhancing their employability. In the present study, we only included workers meeting our criterion of having a permanent employment contract for at least 12 h per week as it is more likely that these workers have insight into the organizational climate. The response rate was 26.34%. Participants' mean age was 34.78 years (SD = 13.25). They were contracted, on average, for 83 h on a monthly basis (SD = 53.61), and had been employed, on average, for 14.81 years (SD = 10.93). About half of them (53%) had enjoyed higher education. The sample consisted of slightly more men (58%) than women.

Age Group Membership

Age-group membership was measured by a set of dummy variables: the younger age group (< 30 years old, n = 47); the middle-aged group (30 to 49 years old, n = 32); and the older age group (being the reference category in our empirical analysis) (50 to 67 years old, n = 19). This age group categorization is commonly used in the literature. However, in view of our focus on low-skilled job incumbents who can start their careers at a relatively young age, the threshold between what we consider younger versus middle aged worker categories (i.e., 30 years) is slightly lower than in other studies (i.e., 35 years) (cf. Van der Heijden, 2001).

Self-Perceived Employability

We used Van der Heijde and Van der Heijden's (2006) validated self-perceived employability scale, comprising five competence-based dimensions: Occupational Expertise (e.g., *During the past year*, *I was*, *in general*, *competent to perform my work accurately and with few mistakes*); Anticipation and

Optimization (e.g., *I take responsibility for maintaining my labor market value*); Corporate Sense (e.g., *I support the operational processes within my organization*); Personal Flexibility (e.g., *I adapt to developments within my organization*); and Balance (e.g., *My work and private life are evenly balanced*). The Cronbach's alphas of the subscales ranged from 0.62 (personal flexibility) to 0.87 (occupational expertise and balance) (see also **Table 1**).

Perceived Negative (Meta-)Stereotyping in the Organization Regarding Older Age Group Members

To measure respondents' perceptions of age-based (meta-)stereotyping in their organization (in this study operationalized as what the respondent perceives that organizational members think about older workers), we adjusted the three-dimensional validated instrument by Henkens (2005), based on the 15 original items measuring three stereotyping dimensions: Productivity (e.g., *Older workers are less productive than younger workers*); Reliability (e.g., *Older workers are more reliable than younger workers*); and Personal Adaptability (e.g., *Older workers are less interested in technological change than younger workers*). For example, the item "Older workers are less productive than younger workers" was rephrased as follows: "In my organization, it is believed that older workers are less productive than younger workers." Perceptions of stereotyping regarding older age group members were coded such that higher values on the three dimensions represented respondents to perceive more *negative* (meta-)stereotypes regarding older workers' productivity, reliability and personal adaptability, respectively. The Cronbach's alphas were as follows: 0.71 (productivity), 0.79 (reliability), and 0.70 (personal adaptability). Since our instrument measures "perceived stereotyping regarding older age group members in the organization," the responses of the older workers can be regarded to measure meta-stereotyping.

Analyses

We tested our hypotheses, depicted in **Figure 1**, by conducting five different series of moderated hierarchical regression analyses, i.e., one for each of the five distinguished employability dimensions. All predictor variables were standardized for a better interpretation of the results. First, we included the study's control variables (i.e., gender, organizational tenure, contractual work hours, and educational level), because these variables can be assumed to be related to employability and/or age in general (Spector and Brannick, 2011). Second, we included the age group membership dummy variables. Third, we added the three age-based (meta-)stereotypes' variables (regarding older workers' productivity, reliability, and personal adaptability). Hypothesis 1 was tested based on the results of step three. In a fourth step, we added and tested the interactions between the age group membership dummies and age-based (meta-)stereotypes. Hypothesis 2 was tested based on the results of step four. In case of significant interactions, we plotted the interaction to provide a better understanding of its meaning. As we formulated directional hypotheses and because of difficulties for detecting interaction effects with a low sample size (Cohen et al., 2013), we applied one-sided significance tests in the regression analyses (Cho and Abe, 2013). **Table 1** presents the means, standard deviations and correlations between the study variables. **Table 2** presents the results of the moderated regression analyses.

RESULTS

Bivariate Analysis

We first analyzed the correlation matrix (see **Table 1**), which reveals that the correlations between the variables chronological age and two age-based (meta-)stereotypes are negative: older workers' productivity ($r = -0.21$, $p < 0.05$); and reliability ($r = -0.17$, $p < 0.05$). These correlations reveal that perceptions of negative age-based stereotyping are larger among the two younger age groups than among the older age group.

TABLE 1 | Means, standard deviations, and pearson's correlations between study variables.

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
(1) Chronological age	34.78	13.25												
(2) Gender	–	–	0.04											
(3) Organizational tenure	14.81	10.93	0.81***	−0.04										
(4) Contractual work hours	83.33	53.61	0.51***	−0.31**	0.51***									
(5) Education level	–	–	−0.48***	−0.09	−0.43***	−0.18								
(6) MST Productivity	2.71	0.75	−0.21*	−0.04	−0.20*	−0.12	0.07							
(7) MST Reliability	2.80	0.73	−0.17*	0.18	−0.18	−0.16	0.14	−0.07						
(8) MST Adaptability	3.22	0.66	−0.12	−0.05	−0.16	−0.03	0.17	0.36***	−0.25*					
(9) Occupational expertise	4.88	0.42	−0.56*	−0.03	−0.15	−0.06	0.12	0.21*	0.03	0.16				
(10) Anticipation and optimization	4.05	0.69	−0.19	−0.05	−0.08	0.01	−0.08	−0.01	0.09	0.03	0.29**			
(11) Corporate sense	4.41	0.70	−0.15	−0.18	−0.02	0.15	−0.02	0.12	0.08	0.11	0.49***	0.67***		
(12) Personal Flexibility	4.50	0.43	−0.28*	−0.04	−0.30**	−0.22*	0.12	0.18	0.24*	0.10	0.48***	0.33**	0.42***	
(13) Balance	4.42	0.70	−0.11	0.01	−0.05	−0.14	−0.16	−0.03	0.01	−0.13	0.31**	0.43***	0.33**	0.14

*N = 98, MST = Perceived age-based (meta-)stereotyping, *p < 0.05, **p < 0.01, ***p < 0.001.*

TABLE 2 | Moderated regression analyses for perceived age-based stereotyping and age-group as predictor of five employability dimensions.

	Occupational expertise			Anticipation and optimization			Corporate sense			Flexibility			Balance		
Variable	***B***	***SE***	β	***B***	***SE***	β	***B***	***SE***	β	***B***	***SE***	β	***B***	***SE***	β
Step 1															
Gender	−0.01	0.09	−0.02	0.00	0.16	0.00	−0.19	0.16	−0.13	−0.05	0.10	−0.06	−0.09	0.16	−0.07
Organizational tenure	−0.06	0.05	−0.15	−0.14	0.09	−0.20	−0.10	0.09	−0.14	−0.11	0.06	−0.26*	−0.07	0.09	−0.10
Contractual work hours	0.03	0.05	0.06	0.07	0.09	0.10	0.13	0.09	0.19	−0.04	0.06	−0.10	−0.09	0.09	−0.12
Education level	0.02	0.10	0.02	−0.20	0.16	−0.14	−0.10	0.16	−0.07	−0.02	0.10	−0.02	−0.39	0.16	−0.28**
Change in R^2	0.02			0.03			0.06			0.10*			0.08†		
Step 2															
Gender	0.02	0.10	0.02	0.12	0.16	0.01	−0.07	0.16	−0.05	−0.04	0.10	−0.05	−0.01	0.16	0.00
Organizational tenure	0.02	0.07	0.04	0.02	0.12	0.03	0.14	0.12	0.19	−0.07	0.08	−0.15	0.08	0.13	0.11
Contractual work hours	0.04	0.06	0.09	0.17	0.10	0.24*	0.19	0.10	0.27*	−0.06	0.06	−0.14	−0.03	0.10	−0.04
Education level	0.00	0.10	0.00	−0.31	0.17	−0.22*	−0.18	0.17	−0.13	0.00	0.10	0.00	−0.47	0.17	−0.33**
Young workers (ref. = older workers)	0.28	0.20	0.35	0.70	0.34	0.51*	0.92	0.33	0.65**	0.15	0.21	0.17	0.60	0.34	0.42*
Middle–aged workers (ref. = older workers)	0.21	0.15	0.25	0.18	0.25	0.12	0.58	0.25	0.38*	0.22	0.15	0.24	0.26	0.25	0.17
Change in R^2	0.03			0.06*			0.08*			0.02			0.03		
Step 3															
Gender	0.01	0.10	0.02	0.09	0.17	0.06	−0.11	0.16	−0.08	−0.07	0.10	−0.08	0.00	0.17	0.00
Organizational tenure	0.03	0.08	0.07	0.04	0.13	0.05	0.17	0.12	0.25	−0.04	0.08	−0.09	0.06	0.13	0.08
Contractual work hours	0.04	0.06	0.09	0.17	0.10	0.24	0.19	0.10	0.27*	−0.05	0.06	−0.12	−0.02	0.10	−0.03
Education level	−0.01	0.10	−0.01	−0.33	0.17	−0.24*	−0.23	0.17	−0.16	−0.03	0.10	−0.03	−0.45	0.17	−0.32**
Young workers (ref. = older workers)	0.27	0.20	0.33	0.72	0.34	0.52*	0.93	0.33	0.66**	0.15	0.20	0.18	0.63	0.34	0.44*
Middle–aged workers (ref. = older workers)	0.18	0.15	0.22	0.19	0.26	0.13	0.56	0.25	0.37*	0.21	0.15	0.22	0.31	0.26	0.21
MST Productivity	0.04	0.05	0.10	−0.01	0.08	−0.01	0.03	0.08	0.04	0.04	0.05	0.09	−0.04	0.08	−0.06
MST Reliability	0.03	0.05	0.07	0.09	0.08	0.13	0.14	0.08	0.20*	0.11	0.05	0.25*	−0.01	0.08	−0.01
MST Adaptability	0.03	0.05	0.07	0.02	0.08	0.02	0.08	0.08	0.11	0.03	0.05	0.06	−0.09	0.08	−0.13
Change in R^2	0.02			0.02			0.04			0.06			0.02		
Step 4															
Gender	−0.01	0.10	−0.02	0.13	0.16	0.09	−0.13	0.17	−0.09	−0.11	0.11	−0.12	0.15	0.17	0.11
Organizational tenure	0.04	0.08	0.09	0.02	0.12	0.03	0.18	0.12	0.25	−0.03	0.08	−0.08	−0.02	0.12	−0.02
Contractual work hours	0.02	0.06	0.04	0.13	0.10	0.19	0.15	0.10	0.21	−0.06	0.06	−0.15	−0.02	0.10	−0.02
Education level	−0.02	0.11	−0.03	−0.31	0.17	−0.22*	−0.25	0.18	−0.18	−0.03	0.12	−0.03	−0.46	0.18	−0.33**
Young workers (ref. = older workers)	0.41	0.21	0.52*	0.95	0.33	0.68**	10.13	0.34	0.80**	0.16	0.22	0.18	0.70	0.34	0.50*
Middle–aged workers (ref. = older workers)	0.36	0.16	0.43*	0.52	0.26	0.35*	0.85	0.27	0.56**	0.25	0.17	0.27	0.44	0.26	0.29

(Continued)

TABLE 2 | Continued

Variable	Occupational expertise			Anticipation and optimization			Corporate sense			Flexibility			Balance		
	B	*SE*	β	*B*	*SE*	β	*B*	*SE*	β	*B*	*SE*	β	*B*	*SE*	β
MST Productivity	−0.10	0.09	−0.25	−0.31	0.15	−0.45*	−0.14	0.15	−0.19	0.08	0.10	0.17	−0.31	0.15	−0.44*
MST Reliability	−0.11	0.09	−0.29	−0.20	0.15	−0.29	−0.11	0.15	−0.15	0.02	0.10	0.05	0.01	0.15	0.02
MST Adaptability	−0.14	0.10	−0.34	−0.39	0.16	−0.57**	−0.29	0.17	−0.41*	−0.05	0.11	−0.11	−0.35	0.17	−0.49*
Young E × MSTP	0.21	0.12	0.35*	0.47	0.19	0.45**	0.27	0.19	0.25	−0.04	0.12	−0.07	0.39	0.19	0.36*
Young E × MSTR	0.17	0.12	0.28	0.51	0.18	0.49**	0.35	0.19	0.34*	0.09	0.12	0.14	0.13	0.19	0.13
Young E × MSTA	0.18	0.13	0.31	0.43	0.20	0.42*	0.41	0.21	0.40*	0.13	0.13	0.20	0.37	0.21	0.36*
Middle–aged E × MSTP	0.09	0.13	0.12	0.20	0.21	0.16	0.00	0.21	0.00	−0.12	0.14	−0.15	0.31	0.21	0.24
Middle–aged E × MSTR	0.23	0.13	0.31*	0.13	0.20	0.10	0.27	0.21	0.20	0.18	0.13	0.22	−0.42	0.21	−0.31*
Middle–aged E × MSTA	0.22	0.14	0.31	0.51	0.23	0.40*	0.52	0.24	0.41*	0.08	0.15	0.10	0.07	0.23	0.06
Change in R^2	0.09			0.19**			0.10†			0.04			0.17**		

N = 98, ST = age–based (meta–)stereotyping, MSTP = age–based (meta–)stereotyping productivity, MSTR = age–based (meta–)stereotyping reliability, MSTA = age–based (meta–)stereotyping adaptability,
*†p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001.*

However, chronological age was not significantly related to age-based (meta-)stereotypes regarding older workers' personal adaptability ($r = -0.12$, *ns*).

Hypotheses Testing

Occupational Expertise

Contrary to Hypothesis 1, we found no main effect of age group membership for perceived occupational expertise. Also no main effect of perceived (meta-)stereotyping regarding older workers was found. However, partly in line with Hypothesis 2, we found two significant interactions: young workers × age-based stereotypes on *productivity* (β = 0.35, $p < 0.05$); and middle-aged workers × age-based stereotype *reliability* (β = 0.31, $p < 0.05$). An inspection of the plots in **Figures 2**, **3** shows that self-perceived occupational expertise was more negatively affected by age group membership (older compared to younger and middle-aged workers) under conditions of stronger perceptions of (meta-)stereotyping regarding older workers' productivity and reliability, respectively. These findings can be taken to indicate effects of older workers engaging in meta-stereotyping.

Anticipation and Optimization

In line with Hypothesis 1, we found that younger workers scored higher on anticipation and optimization than older workers (β = 0.52, $p < 0.05$). Although we did not find any main effects of perceived negative age-based (meta-)stereotyping, four significant interactions could be identified, partly confirming Hypothesis 2: young workers × age-based stereotypes on productivity (β = 0.45, $p < 0.01$); young workers × age-based stereotypes on reliability (β = 0.49, $p < 0.001$); young workers × age-based stereotypes on personal adaptability (β = 0.42, $p < 0.05$); and middle-aged workers × age-based stereotypes on personal adaptability (β = 0.40, $p < 0.05$). In every case, workers' self-ratings of anticipation and optimization were more strongly negatively affected by age group membership

FIGURE 2 | Interaction between the age-based (meta-)stereotyping of productivity and age groups: Predicting occupational expertise. Low = –1 *SD*, High = + 1 *SD*, MST = age-based (meta-)stereotyping, old = older workers, young = younger workers.

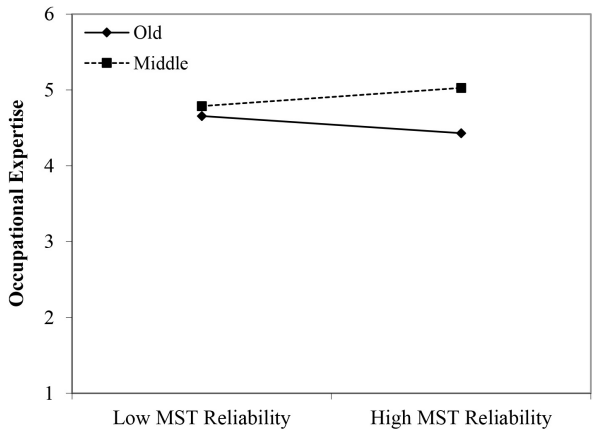

FIGURE 3 | Interaction between age-based (meta-)stereotyping of reliability and age groups: Predicting occupational expertise. Low = –1 *SD*, High = + 1 *SD;* ST = age-based (meta-)stereotyping old = older workers; middle = middle-aged workers.

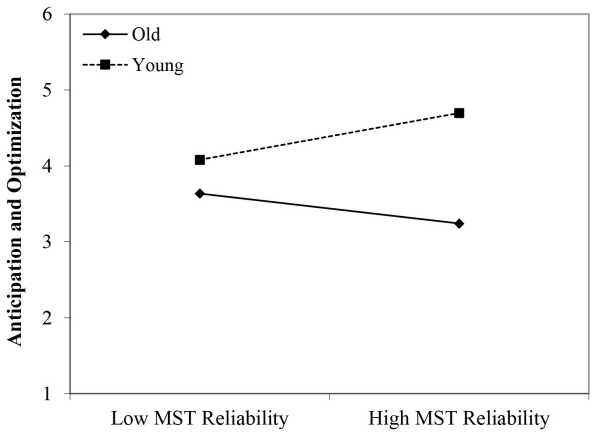

FIGURE 5 | Interaction between perceived age-based (meta-)stereotyping reliability and age groups: Predicting anticipation and optimization. Low = –1 *SD*, High = + 1 *SD*, MST = perceived age-based (meta-)stereotyping, old = older workers, young = younger workers.

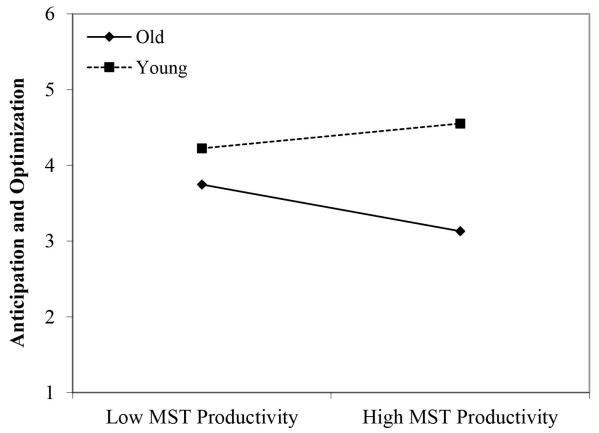

FIGURE 4 | Interaction between perceived age-based (meta-)stereotyping productivity and age groups: Predicting anticipation and optimization. Low = –1 *SD*, High = + 1 *SD*, MST = perceived age-based (meta-)stereotyping, old = older workers, young = younger workers.

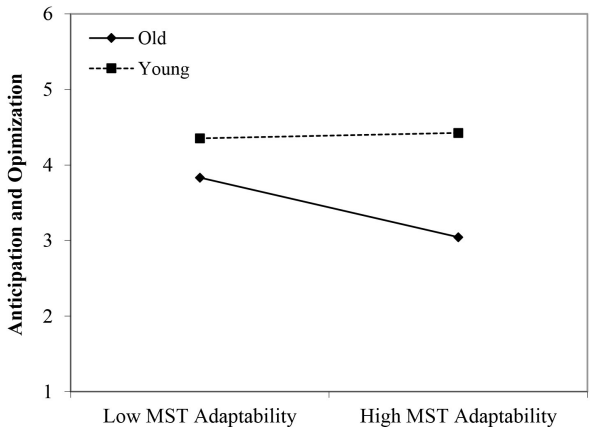

FIGURE 6 | Interaction between perceived age-based (meta-)stereotyping adaptability and age groups: Predicting anticipation and optimization. Low = –1 *SD*, High = + 1 *SD*, MST = age-based (meta-)stereotyping, old = older workers, young = younger workers.

(older age group compared to younger and middle-aged groups) under conditions of stronger perceptions of negative stereotypes regarding older workers (see **Figures 4–7**). These findings can be taken to indicate effects of older workers engaging in meta-stereotyping.

Corporate Sense

In line with Hypothesis 1, both the younger age group ($\beta = 0.66$, $p < 0.001$) and the middle-aged group ($\beta = 0.37$, $p < 0.05$) reported higher scores on corporate sense than their older age counterparts. Moreover, the perceived stereotypes regarding older workers' reliability appeared to have a positive main effect ($\beta = 0.20$, $p < 0.05$). In line with Hypothesis 2, we found three significant interactions between age group membership and perceived age-based (meta-)stereotyping: young workers × age-based stereotypes on reliability ($\beta = 0.34$, $p < 0.005$); young workers × age-based stereotypes on personal adaptability ($\beta = 0.40$, $p < 0.05$); and middle-aged workers × age-based stereotypes on personal adaptability ($\beta = 0.41$, $p < 0.05$). Again, in the case of stronger perceptions of stereotyping regarding older workers, the data revealed that particularly in the older age group, a negative relationship between (meta-)stereotyping and corporate sense emerged (see **Figures 8–10**). These findings can be taken to indicate effects of older workers engaging in meta-stereotyping.

Personal Flexibility

No significant main effect of age group membership on personal flexibility was found and only one positive main effect of age-based stereotyping was identified: stereotypes on reliability ($\beta = 0.25$, $p < 0.05$). With this outcome, Hypotheses 1 and 2 were not supported with our data.

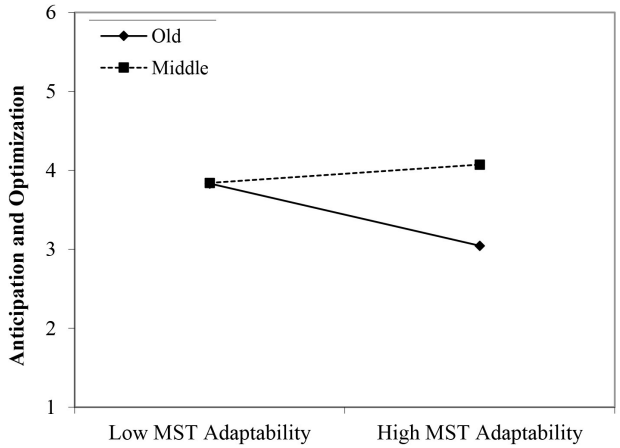

FIGURE 7 | Interaction between perceived age-based (meta-)stereotyping adaptability and age groups: Predicting anticipation and optimization. Low = –1 *SD*, High = + 1 *SD*, MST = age-based (meta)stereotyping, old = older workers, middle = middle-aged workers.

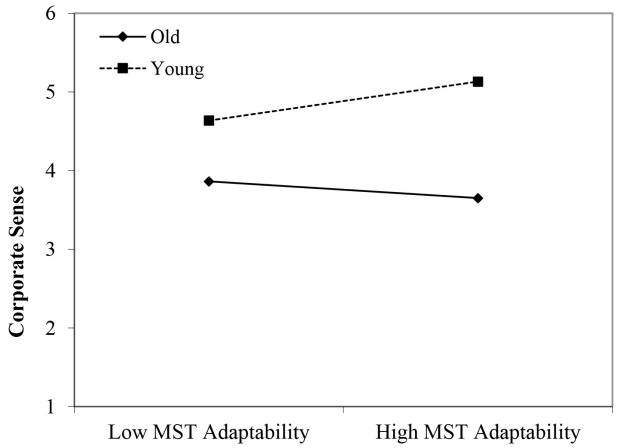

FIGURE 9 | Interaction between perceived age-based (meta-)stereotyping adaptability and age groups: Predicting corporate sense. Low = –1 *SD*, High = + 1 *SD*, MST = age-based (meta-)stereotyping, old = older workers, young = younger workers.

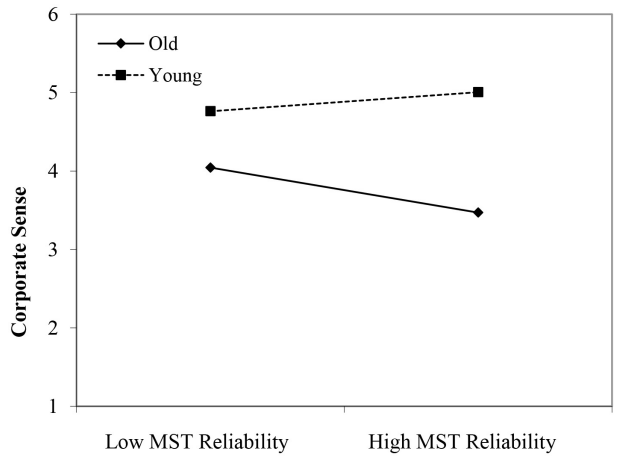

FIGURE 8 | Interaction between perceived age-based (meta-)stereotyping reliability and age groups: Predicting corporate sense. Low = −1 *SD*, High = + 1 *SD*, MST = age-based (meta-)stereotyping reliability, old = older workers, young = younger workers.

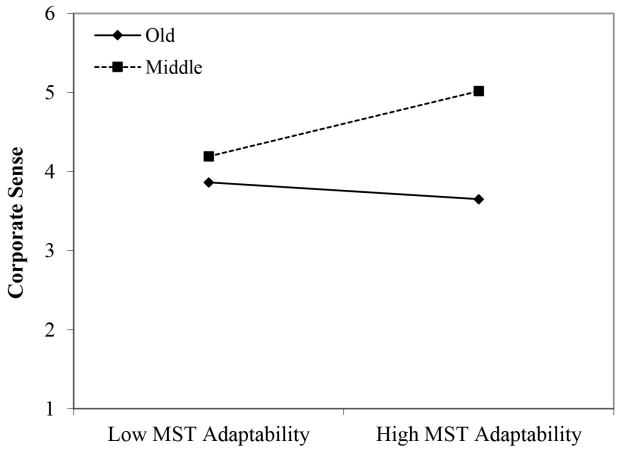

FIGURE 10 | Interaction between perceived age-based (meta-)stereotyping adaptability and age groups: Predicting corporate sense. Low = –1 *SD*, High = + 1 SD, MST = perceived age-based (meta-)stereotyping adaptability, old = older workers, middle = middle-aged workers.

Balance

In line with Hypothesis 1, the younger workers reported more balance in comparison with the older group ($\beta = 0.44$, $p < 0.05$). Although no significant main effects of perceived age-based stereotyping were identified, we found significant interactions for all three types of age-based stereotyping: young workers × age-based stereotypes on productivity ($\beta = 0.36$, $p < 0.05$); young workers × age-based stereotypes on adaptability ($\beta = 0.36$, $p < 0.05$); and middle-aged workers × age-based stereotypes on reliability ($\beta = -0.31$, $p < 0.05$). Regarding the younger age group, the findings were in line with Hypothesis 2. That is, under conditions of stronger perceptions of age-based stereotyping (i.e., regarding productivity and adaptability), stronger negative effects were found for the older age group in comparison with the younger age group (see **Figures 11**, **12**). However, the interaction effect between the middle-aged group and stereotyping regarding older workers' reliability showed an unexpected direction (see **Figure 13**). The data revealed that it was the middle-aged group that reported a stronger negative relationship between the age-based stereotype of reliability and balance in comparison with older workers. These findings can be taken to indicate effects of both middle aged workers engaging in stereotyping and older workers engaging in meta-stereotyping.

DISCUSSION AND CONCLUSION

Nowadays, employers and managers increasingly realize that supporting workers' employability enhancement through SCD

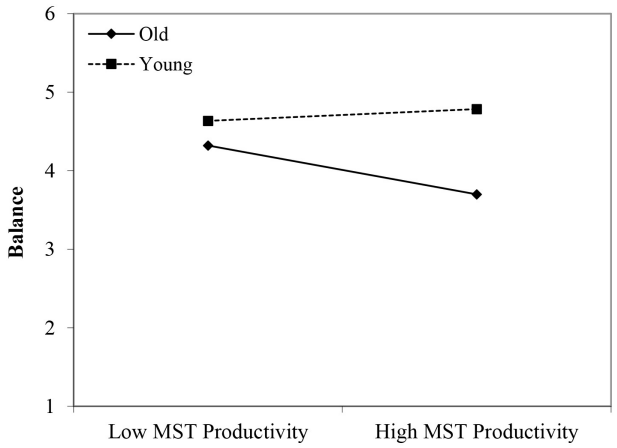

FIGURE 11 | Interaction between perceived age-based (meta-)stereotyping productivity and age groups: Predicting balance. Low = –1 *SD*, High = + 1 *SD*, MST = perceived age-based (meta-)stereotyping, old = older workers, young = younger workers.

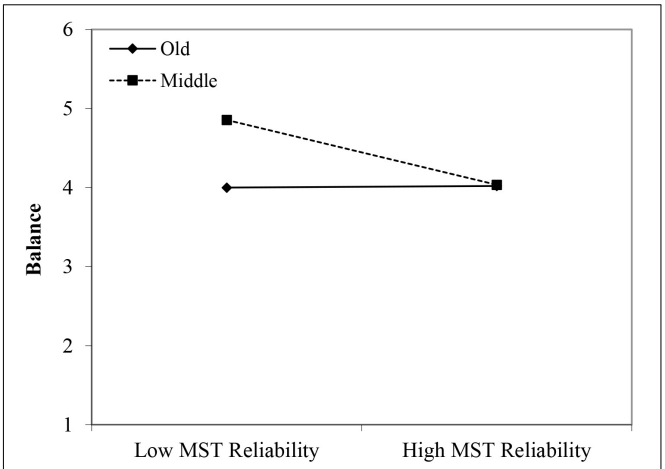

FIGURE 13 | Interaction between perceived age-based (meta-)stereotyping reliability and age groups: Predicting balance. Low = –1 *SD*, High = + 1 *SD*, MST = perceived age-based (meta-)stereotyping, old = older workers, middle = middle-aged workers.

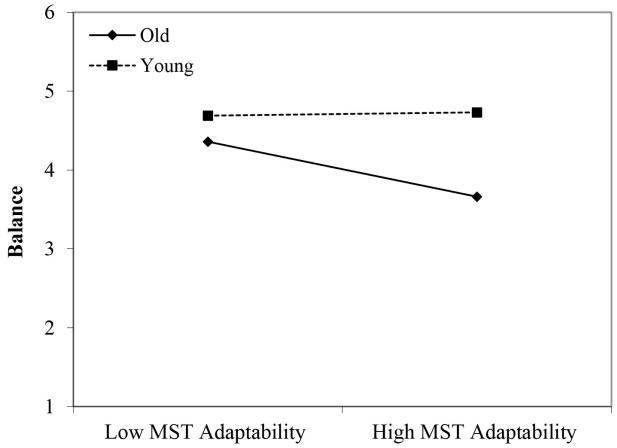

FIGURE 12 | Interaction between perceived age-based (meta-)stereotyping adaptability and age groups: Predicting balance. Low = –1 *SD*, High = + 1 *SD*, MST = perceived age-based (meta-)stereotyping adaptability, old = older workers, young = younger workers.

policies and practices is important (De Vos et al., 2016). Despite this, however, organizations still tend to focus on high potentials only, rather than taking an inclusive approach (De Vos and Dries, 2013; Peters and Lam, 2015). Consequently, more disadvantaged groups in the workforce (e.g., older workers, women workers, immigrants and less qualified workers) may be excluded from organizations' employability policies and practices. As a consequence, members of these groups may refrain from investing in their own employability, such as training, which may create a self-fulfilling prophecy (Merton, 1948; Dordoni et al., 2017). Stereotypes held by group members about themselves might affect this process. Therefore, in this empirical study, we addressed the role of age group membership and negative age-related (meta-)stereotyping regarding older workers, and, particularly, the amplifying role the latter may have for (older) workers' self-perceived employability.

Summary and Reflection

First, our descriptive analyses (presented in **Table 1**) showed that older age group members perceive less negative stereotyping in their organization regarding older workers' productivity and reliability (but not regarding personal adaptability) than the younger age group members. Possibly, the younger age groups perceive more negative age-based stereotyping because they are dissimilar to their older co-workers, for example as regards their physical appearance and values/interests (Ryan et al., 2015). In a related vein, older workers may experience less negative age-based stereotyping about themselves (i.e., meta-stereotypes) as they can more easily distance themselves from negative age stereotyping (e.g., "I am not that old") (ibid.).

Second, based on our explanatory analyses (see the direct effects of age group membership presented in **Table 2**), overall, and contrary to our expectations, we found that older workers did not report lower levels of *occupational expertise* and *personal flexibility*. A possible explanation may be that the type of work conducted by the supermarket workers focused on in this study does not demand that much education and mainly comprises routine-based service work, perhaps characterized by relatively low levels of emotional, physical and cognitive demands. This may be different for workers in other industries, such as workers in high manual and physically demanding jobs. For example, warehouse workers may face stronger physical demands due to lean production processes (Peters and Lam, 2015), whereas knowledge workers in high tech organizations operating in turbulent markets, may experience knowledge, tools and techniques to be constantly in flux. Possibly, the older workers in our study may not have experienced such rapidly

changing demands in their jobs and may therefore feel that they are able to keep up with occurring changes in the workplace.

In line with expectations based on SST (Carstensen et al., 1999; Carstensen, 2006), members of the oldest age group in our study reported lower levels of *anticipation and optimization* in comparison with the youngest age group (but not with the middle-aged group). Due to their more limited life-time horizon regarding work (and non-work), older workers may hold a less proactive attitude toward searching for other career possibilities in- or outside the organization than their younger counterparts who have a more open-ended time horizon (cf. Carstensen, 2006).

Older age group members also reported less *corporate sense* in comparison with members from the two younger age groups. Building upon SST, it might be that given their increased focus on non-work goals in view of their more limited future time perspective, older workers may be less eager to display corporate sense, such as team and organizational commitment, since they are less motivated to create new opportunities for gainful employment, for example by sharing knowledge at team and organizational levels and by investing in solid collaborations at work. This may especially be the case when work is less challenging (cf. Petrou et al., 2017). Presumably, the lower levels of corporate sense may decrease older workers' social capital and, consequently, their odds of finding (new) employment if necessary.

Finally, older workers generally reported lower *balance*, but only in comparison with the youngest age group. In view of their more limited future time perspective, it is conceivable that older workers might prioritize non-work goals more than younger workers. According to SST, in this stage of their working life, achieving non-work goals may provide older workers more emotional well-being than achieving work goals. Alternatively, older workers may have more non-work obligations, such as informal care for elderly, which demands them to shift their attention to the non-work domain. Yet, enhancing older workers' employability in this regard would also allow them to develop what can be referred to a "protean career" based on personal values (Hall and Mirvis, 1995) which may be both emotionally and financially rewarding.

Third, also based on our explanatory analyses (see the interaction effects between age and negative stereotypes presented in **Table 2**), we found that those older workers who did perceive more negative stereotypes regarding their own age group (which can be indicated as those older workers who engaged in more negative meta-stereotyping) indeed reported lower scores on some of the employability dimensions than others who perceived similar negative age-based stereotypes. In fact, most of the interactions between age group and stereotypes regarding older workers revealed differences between older versus younger workers. However, also differences between middle-aged and older workers were found.

In comparison with workers in the youngest age group holding similar perceptions, older workers who perceived more negative stereotyping regarding older workers' productivity reported lower levels of *occupational expertise*. In comparison with the middle-aged group, older workers who experienced more negative stereotyping regarding older workers' reliability reported lower levels of *occupational expertise*. In line with our theoretical framework, it can be argued that meta-stereotyping undermines older workers' sense of self-worth and reduces their opportunity focus (Froehlich et al., 2015). Consequently, they may become demotivated to further invest in their employability enhancement (cf. Branscombe et al., 1999; Schmitt et al., 2002; Dordoni et al., 2017), which is reflected in lower self-evaluations.

In a related vein, in comparison with younger workers, older workers' self-perceived *anticipation and optimization* was negatively affected by negative age-based meta-stereotyping on productivity, reliability, and personal adaptability. Perceived stereotyping of older workers' personal adaptability was also associated with less *anticipation and optimization* of older workers in comparison with middle-aged workers. Building upon our theoretical framework, we can argue that older workers' meta-stereotyping may lead to feelings of uncertainty, demotivating them more strongly than others to display proactive labor market behavior.

The negative (meta-)stereotyping regarding older workers' reliability was only associated with lower self-perceptions of *corporate sense* among older in comparison with younger workers. Moreover, older workers who did perceive more negative stereotyping regarding their personal adaptability scored lower on *corporate sense* compared with both younger age-groups. Possibly, older workers who experience stronger negative stereotyping regarding their own age group are less inclined to invest in high-quality relationships and interactions with other members in the team and organization as this may not pay-off. For *personal flexibility*, no significant interaction effects between age group and age-based (meta-)stereotypes were found.

Especially in comparison with the youngest age group, older workers' negative meta-stereotyping (associated with their productivity and personal adaptability) was associated with a lower view on *balance* between own work and non-work objectives and between personal and employer goals. Following SST, this finding may reflect that older workers are inclined to pursue more non-work goals which they have to balance with their work obligations. In light of perceived negative meta-stereotypes, older workers might not expect many opportunities in and rewards from their work and disengage from their work goals, or perhaps develop a higher engagement in non-work goals (cf. Petrou et al., 2017), which makes it particularly difficult for them to perceive balance between work and non-work. Strikingly, however, the gap between the older workers' and middle aged workers' reported *balance* is less wide when both perceive negative stereotyping regarding older workers' reliability. Possibly, when older workers feel that they are not perceived as reliable, they compensate for this by gaining a better

balance. Alternatively, when the middle aged workers perceive older workers to be less reliable, they may feel that they have to substitute for others, or cope with emergencies more than older workers, affecting their perceived balance.

Limitations and Future Research

Our study provides evidence on the role of psychological processes associated with age group membership and its interaction with age-based (meta-)stereotyping in the light of self-perceived employability. Future research is needed to cross-validate our findings, especially given our relatively small sample size, the self-report and cross-sectional nature of our data, and our focus on workers in the supermarket/service industries.

In our study, we addressed an under-studied population of workers when it comes to career development, i.e., older less qualified (supermarket) service workers. It would be valuable, however, to focus future research on older workers in other industries as well, as the relationships between age group membership, (meta-)stereotyping, and individuals' self-perceived employability, and its dimensions distinguished in this study, may vary across job incumbents with different levels of emotional, physical and cognitive demands. For example, the relationship between age group membership and self-perceived occupational expertise and personal flexibility may depend on the degree of cognitive demands characterizing the type of work and the market developments that pressure workers to keep up with ongoing changes regarding knowledge, techniques, and tools. It is not clear yet, however, how the more limited future time perspective associated with older workers (Carstensen et al., 1999; Carstensen, 2006) affects knowledge workers' motivation to invest in occupational expertise and to display personal flexibility differently than the supermarket workers in our study, and how these relationships may be contingent upon their perceptions of negative age-based stereotyping in their organization. Older knowledge workers who may experience a more limited life-time horizon regarding work (and non-work) than younger knowledge workers may also be more inclined to display higher levels of *anticipation and optimization* than the supermarket workers in our study. Possibly, knowledge workers face more alternative career possibilities in- or outside their organization, which may also be enabled by their employers' age-aware (training and demotion) policies (cf. Fleischmann et al., 2015). These are all interesting avenues for future research.

Future research could also address other types of disadvantaged groups and may further investigate the interactions between structural (e.g., job type) and individual factors, such as age, sex and ethnic background, in order to explain how (meta-)stereotyping regarding these groups can impact SDC. In fact, taking into account the future of work, current (labor) market trends (such as labor market shortages) may pressure organizations to look beyond professional and managerial workers regarding career development opportunities (Lawrence et al., 2015) and to also include other groups of workers. Unfortunately, at present, those most in need of reskilling and upskilling still appear to receive far less training than others (World Economic Forum, 2018), possibly leading to meta-stereotyping and self-fulfilling prophecies. However, sustained employability for all will be important, not only for the individuals' own economic, social and mental sustainability (De Vos and Van der Heijden, 2015), but also for organizational adaptability and sustainable growth. In that regard, future research could focus on possible constraints that, overtly or implicitly, affect how workers are looked at and how they look at themselves and how to overcome (meta-)stereotyping in order to encourage (later) life employment.

Policy Implications

Our findings also have implications for policy makers and other organizational stakeholders. First, older workers might not be aware of (meta-)stereotyping, but may unwittingly experience its impact. However, our study showed that those who do experience (meta-)stereotyping are likely to suffer from negative effects on their own perceived employability. This suggests that SCD practices need to pay particular attention to the possibly amplifying psychological processes that demotivate older workers to recognize and invest in their own employability, as this may impact their potential to develop a career over the full life cycle that may be both meaningful (Hall and Mirvis, 1995) and that enhances their financial self-sufficiency. In this study, not only processes associated with age group membership in itself, but also the interaction with processes associated with older workers' meta-stereotyping and other-age groups' age-based stereotyping were shown to affect workers' self-perceived employability, and hence their career development opportunities. In order to avoid labor market exclusion of groups that are either actually negatively stereotyped and/or perceive themselves to be stereotyped, and that are therefore discouraged to invest in employability, social dialogue might be needed, as this can foster conversations on workers' ambitions, perhaps opening up opportunities for labor market mobility (De Prins et al., 2015), which can intrinsically motivate them to continue their careers.

Second, policy-makers should realize that an inclusive approach to career development implies that workers' different needs and values are respected and taken into consideration. Again, this requires social dialogue between workers and supervisors (cf. Euwema et al., 2015), but also between diverse (age) groups in the organization. When the different parties involved engage in career dialogues, workers and managers might be able to overcome (meta-)stereotypes they might hold about others and themselves and take opportunities they did not see for themselves (Bleijenbergh et al., 2016). Also supervisors might overcome stereotyped views regarding disadvantaged groups and learn to appreciate their various competences and talents (Meyers and Van Woerkom, 2014).

Third, to shape inclusive climates, all workers, regardless of their age, gender, ethnicity or intersections thereof (Mullings and Schulz, 2006), need to perceive that they are valued organizational members and have equal access to employability enhancing practices, which can satisfy their basic psychological needs (e.g., for belonging and uniqueness) (Nishii, 2013). This demands parties to develop more understanding and open communication in order to respond to different expectations regarding work,

non-work and personal development, in line with individuals' differences in talents and competences (Van der Heijden and De Vos, 2015).

Fourth, organizational stakeholders should monitor whether their HR policies and practices regarding recruitment, training and career development are not biased toward younger age groups, but are targeted at all age groups, as they can all add value to the organization (cf. Kunze et al., 2011).

CONCLUSION

Older age group members in our study reported lower levels of employability, but particularly so when they perceived stronger negative stereotyping regarding their age group, which can be interpreted as meta-stereotyping. Because of the specific type of jobs that were incorporated in our empirical study, the psychological processes associated with age group membership and (meta-)stereotyping did not affect self-perceived occupational expertise, possibly because of the relatively low level of occupational knowledge and skills required to do the job. This may also explain the lack of significant effects on workers' personal flexibility. However, in view of new labor market requirements and technological developments (e.g., ongoing automation), (lower-skilled) work becomes ever more uncertain, which also demands these workers to be prepared for making labor market transition. This stresses the growing importance of the employability dimensions anticipation and optimization and corporate sense for all workers. In order to reduce age-related (meta-)stereotyping, we argue that HR policies and practices, particularly social dialogue, can enhance inclusion by stimulating (future) ambitions among all workers, and disadvantaged workers in particular, and support them in creating career opportunities that can deliver psychological, social, and economic benefits.

ETHICS STATEMENT

The data used in this paper was collected in the context of an internal, non-funded project conducted at the Business Administration Department of the Radboud University Nijmegen in Netherlands. According to the Regulations Ethics Committee, Faculty of Law and Nijmegen School of Management and national regulations, an ethics approval was not required. The instruction letter in the questionnaire, however, was in line with the criteria presented by the Regulations Ethics Committee, Faculty of Law and Nijmegen School of Management (https://www.ru.nl/law/research/ethics-committee/regulations). Besides informing all participants before their participation in the study that the data would be used for scholarly work, after data collection the team leader gave explicit permission for using the data for scholarly publication. Informed consent of the participants was implied through survey completion.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial intellectual contribution to the research. PP, BVdH, AV, and RK developed the theoretical conception. PP and DS developed the study design. DS performed the analyses and the drafted the figures and tables. PP and RK performed the data collection. PP, BVdH, DS, and AV interpreted the results and all contributed to drafting the paper.

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Grieving for Job Loss and Its Relation to the Employability of Older Jobseekers

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Introduction: Loss of employment is an experience that is lived and interpreted differently depending on a series of individual variables, including the psychological resources available to the affected person as well as their perception of their degree of employability. Losing one's job can be one of the most painful and traumatic events a person has to withstand. Following a dismissal, the worker needs to overcome a period of emotional adaptation to the loss. But that period of grieving can also condition the job searching process of the individual and can be influenced by different variables, highlighting the age and work experience. The objective of this study is to analyse the relationship between intensity and type of affliction due to the loss of employment in older workers and their level of employability.

Methods: We carried out a descriptive and analytical cross-sectional study. The sample consisted of 140 unemployed participants, from 19 to 65 years of age—users of Job Orientation in the Public Employment Service of Andalusia (Spain). Of the total participants, 66 were unemployed and over 45 years of age. They all took the Labour Insertion Potential Assessment Test and the Texas Revised Inventory of Grief, adapted for job loss.

Results: Significant differences are shown in the grieving process due to loss of employment between both groups, with the older unemployed living the process more intensely. In relation to the employability potential, differences are found between both groups in terms of availability, perceived difficulties and fears. Interrelationships between total grieving intensity and the importance that older jobseekers give to work are also indicated.

Conclusion: Loss of employment and the psychological and health consequences of this situation are identified with those that arise in the grieving process. Older workers

present a series of features that determine that their job loss grieving process is more intense and lasts longer than that of other younger workers, regardless of whether the job loss was recent or not. On the other hand, it is shown that the intensity of grieving for job loss is related to the decrease of certain variables that are part of the concept of employability.

Keywords: grieving, unemployment, employability, older workers, work centrality, availability, perceived difficulties, fears

INTRODUCTION

The term grieving can be applied to those psychological and psychosocial processes that come into play in the face of any type of loss or change relevant to the person who suffers them, such as academic failure, divorce, family issues, changes of address, economic problems, diagnosis of serious illness, migratory movements, empty nest syndrome or retirement. All these situations can lead to maladaptive reactions with manifestations such as sadness, crying, despair, impotence, anger and guilt, as well as social and workplace dysfunction (Carmona et al., 2008; Cáceres et al., 2009; Shear et al., 2013).

Job loss triggers a process of global adjustment in the person in all their personal, social and family dimensions (Afonso and Poeschl, 2006), and involves losing contact with a situation with which an affective bond is maintained. In this way, an expression similar to that of mourning in any other circumstance takes place, such as that characterising the loss of a loved one (Karsten and Moser, 2009; Buendía, 2010).

The several explanatory theories of grief range from those that emphasise the role of separation anxiety in the process (Munera, 2013), through those that conceive a biological perspective of grief by placing it as a consequence of attachments (Bowlby, 1980), to those focused on analysing the processual nature of grief, with a beginning, development and end (Ortego-Maté, 2001). Several authors have presented models in which the phases of grief are identified as a process (Kübler-Ross, 1993; Sánchez and Martínez, 2014). Other authors (Fernández et al., 2006), however, criticise this passive view of grief by phases, and understand that coping with grief calls for an active attitude. These models state that grief is influenced by multiple causes, both individual and social, and this makes it very difficult to determine its stages. Another of the issues approached in the literature on grief is related to its typologies. Neimeyer (2002), in addition to normalised grief, distinguishes between anticipatory grief, felt before the loss; inhibited grief, with pathological denial of loss; prolonged grief, when the sufferer tries to maintain that the lost person or situation is still "alive"; and complicated grief, accentuating and prolonging the typical processes of normal grieving.

Dysfunctional grieving processes favour somatisation and do not allow its evolution (Villacieros et al., 2014; Arizmendi and O'Connor, 2015). Possible risk factors for these types of specifically dysfunctional grief have been defined; whether the loss is expected or unexpected (Sanders, 1999); the economic impact of the loss (Hegewald and Crapo, 2007); strategies and styles for coping with the loss (Siracusa et al., 2011; Tofthagen et al., 2017); and other possible related sociodemographic variables as modulators of the use of different coping strategies in the face of loss (Meléndez et al., 2012).

Regarding protection factors, as indicated by Stroebe et al. (2006), the most notable are religious beliefs and social support (Álvaro and Garrido, 2003), resilience (Gillham and Seligman, 1999; Yu et al., 2016), post-traumatic growth and strong personality or hardiness (Tedeschi and Kilmer, 2005).

Díaz et al. (2016) carried out a study in which they applied the Texas Revised Inventory of Grief (TRIG) for the first time in a job loss context. The participants in this study, a group of unemployed Spaniards, did not present differences in the intensity of grief due to job loss related to age and sex, but in relation to the length of unemployment and responsibility for family income. On the other hand, the study evidenced avoidant coping in people who presented more intense grief.

Conceptualising employability is not an easy task, as the term is used in the employment and unemployment area to refer to various issues related to greater or lesser ease of entering the labour market (Gamboa, 2013). Tackling it through different disciplines, approaches and levels determines the study perspective and, finally, its meaning and explanatory scope (Rentería-Pérez and Malvezzi, 2008).

The International Labour Organisation defines it as the likelihood of filling a vacancy in a specific job market based on the attributes with which the searcher is equipped, and which are those that allow this individual to overcome the obstacles imposed by the market (International Labour Organisation, 2000). Other authors have placed more emphasis on the psychosocial approach to conceptualising employability, indicating it as the degree of suitability of the psychosocial characteristics of a job seeker for the typical profile of the person employed in a given context (Blanch, 1990). In terms of the latter approach, employability therefore includes qualifications, knowledge and skills that increase the workers' ability to find and keep a job. In short, a series of internal factors or psychosocial factors that affect the attitudes and motivation of the unemployed are highlighted which are related to the decrease in their chances of finding a job. Thus, as Blanch (1990) explains, it seems that the "psychosocial profile" of the unemployed has a significant influence on their access to employment and determines their level of employability.

The concept of employability is multidimensional, related to and being influenced by different variables (McQuaid and Lindsay, 2005; Rothwell and Arnold, 2007; Clarke, 2008; Rodríguez-Espinar et al., 2010; Törnoos Née Kirves et al., 2017).

Although there are many proposals regarding the most significant variables that determine an individual's employability, most of them point to work centrality, values and work goals, availability, style and difficulties in finding a job, attitudes and fears about the unemployment situation and the search for a new one, as well as the level of self-esteem, self-concept and self-efficacy in the person seeking employment as the most relevant (Alonso-García, 2010).

Work centrality has been defined as the degree of general importance that working has at any given time for an individual (Mejía-Reyes, 2016). Valls and Martínez (2004) distinguished two components in work centrality: the belief of work as a life role and as a working activity of the current moment in relation to other activities.

Moreover, it is important to highlight the distinction between two related concepts such as values at work and working goals or objectives. Values at work identify the basic reasons why people work, and work goals refer to what the person prefers to find in their work—i.e., their preferences about what they want to get from work. Thus, goals are more specific than values, despite having a similar meaning, as it is accepted that values do not directly influence people's activity, but rather act indirectly through attitudes and goals (Alonso-García, 2004a).

Availability could be understood as the predisposition of the unemployed person as a conditioning factor in the search for work. Due to possible concurrent circumstances in the person and—usually—derived from their closest relational context, at that time, the unemployed person is or is not immediately available to start a job. The appearance of these circumstances will modulate the value that the person gives to finding a job. Consequently, this psychosocial factor is situated in the same dimension as work centrality, explaining part of the pressure, toward the search, that the individual perceives in their immediate environment (Martínez et al., 2001). In relation to the job search, the higher the jobseeker's availability, the greater their chances are of finding a job. In contrast, when the limitations exceed what would "normally" be logical, they become a serious obstacle to labour insertion.

The individual's perception regarding the difficulties or obstacles in their jobseeking process is also a variable closely related to their employability. The difficulties are the individual's beliefs in their greater or lesser chances of finding work, and although they do not conform to reality, they may have a certain reactive predictive value (Wang et al., 2017). Fernández and Aramburu (2000) related these perceived difficulties within the unemployed to self-confidence. Aguiar and Bastos (2018) discussed the importance of self-concept and self-confidence for vocational choice. The levels of importance for self-confidence, self-esteem and self-concept in the search for employment have been considered as variables that may well be related to the difficulties perceived by the unemployed person in their jobseeking process (da Motta Veiga and Gabriel, 2016; Kakoudakis et al., 2017).

In their work on analysis and intervention in job search techniques, Aramburu and Fernández (1994) demonstrated that the reduction or extinction of fears and worries that may exist in relation to the search for employment in unemployed people increases expectations and diminishes fears. According to Alonso-García and Sánchez-Herrero (2011), there are different fears in the jobseeking situation that are negatively related to success in the search.

Gradual ageing of the workforce in industrialised countries in recent years has led to continuous growth in the number of older employees, which is a change compared to what happened in previous recession periods (Peiró et al., 2013). This trend, however, does not seem to occur in the countries of so-called Mediterranean Europe (Spain, Portugal, Greece, etc.), where the consequences of the crisis and labour changes continue to oust older workers from the job market (Alcover et al., 2014). Older workers are the main victims of the changes undergone in the job market as a result of technological and organisational breakthroughs (Izquierdo et al., 2014), making them one of the most vulnerable groups in terms of losing their jobs and with greater difficulties to re-enter the labour market, particularly suffering the negative effects of unemployment on their health and well-being, and predisposing them to stress situations prior to retirement (Villamil et al., 2006).

Many older workers who lose their jobs become "stable destabilised" (Arnal et al., 2013), immersed in an exclusionary job market that denies them the value of experience, relegating them within their own employment to underemployment or directly dispensing with them. These job loss situations in older workers are preceded by processes of adaptation to the new situation, obliging them to structure new routines, habits, identities, etc., that were already entrenched (Durbar, 2002). This means a change of life and a new way of facing the environment, which also requires redefining processes for one's own personal identity (Amber and Domingo, 2017).

But this job loss situation is experienced differently by each worker on the basis of other variables (Zacher and Schmitt, 2016), with the different strategies deployed by the individual to understand their new situation playing an important modulating role (Demerouti et al., 2014; Segura and Topa, 2016).

The aim of this study is to analyse the relationship between the intensity and type of grieving due to job loss in older workers and their level of employability, assuming that those workers who have been able to develop more functional grief have a more suitable level of employability, with job loss grieving thus constituting a variable that modulates the employability of the person seeking employment. Another objective pursued in this study consists of comparing the intensity and type of grieving due to loss of employment in older workers with those in other groups of workers, and their relationship with employability levels, analysing possible age-related differences.

MATERIALS AND METHODS

Participants

The sample consisted of a total of 140 unemployed participants (57 men and 83 women) who were attending an Employment Guidance Programme of the Public Employment Service of

Andalusia (Spain) and whose ages ranged from 19 to 65 years (M = 43.03, SD = 12.75). Of the total number of participants, 66 were unemployed persons over 45 years of age (37 men and 29 women), of which 15 were over 56 years old. Regarding the level of studies in the sample, the majority of unemployed persons had primary (54.30%) and secondary (29.30%) studies.

Instruments

All the participants in this study completed the following assessment instruments:

1. Sociodemographic data protocol: prepared ad hoc for this research, to gather information on the following variables: age, sex, education level, length of unemployment, dependents, receipt of unemployment benefit, etc.
2. Texas Revised Inventory of Grief adapted to the Job Loss Situation (Díaz et al., 2016): an adaptation of the TRIG, an instrument originally designed to assess the intensity of grief for the loss or death of a loved one, performed in the context of job loss (Faschingbauer et al., 1987). It consists of a total of 21 statements with a five-point Likert-type response format (from completely true to completely false) grouped into two dimensions or scales: Past grief and Current grief. The former (items 1 to 8) reports on the behaviour and feelings of the person at the immediate time of job loss, while the latter (items 9 to 21) refers to the feelings experienced at the current time in relation to said loss. With adequate reliability indexes in the adaptation to unemployed population (0.85 and 0.90 in the respective scales), the Cronbach's alpha coefficients obtained in this sample were 0.81 and 0.88, respectively.
3. Labour Insertion Potential Assessment Test (Alonso-García, 2010): an instrument that evaluates people's workplace insertion potential or employability. It consists of five independent scales that provide information on Work Centrality, Working Goals, Availability, Difficulties and Fears in jobseeking.
4. Centrality: from the adaptation carried out by Alonso-García (2004a) of the MOW International Research Group Questionnaire (1981, 1987), this comprises two subdimensions, the first of which rates the Absolute Importance of the work/job [Likert scale format response from 1 to 5 (from minor to greater importance)] and Relative Importance (answer scale format with three response alternatives), and Absolute Centrality around work [Likert scale response format from 1 to 7 (from least to greatest importance)]. In turn, in the second subdimension the participants had to point out the importance (from 1 to 5) of work/the job/employment compared to other facets of life (spouse/partner, family, friends, religion, hobbies, studies and volunteering), as well as proceeding to organise these aspects according to the importance given to them at the current time.
5. Work goals: this is an adaptation by Alonso-García (2004a) of the Salanova (1991) Scale, devised to measure the main objectives or goals that people prioritise when doing a job; that is, their preferences about what they want to get from work. It includes 14 items with a five-point Likert response format, grouped into five subscales: Independence at Work, Personal Development, Professional Development, Comfort and Instrumental Index. With a Cronbach's alpha of 0.74 (Alonso-García, 2004a), the internal consistency achieved in this study was 0.71.
6. Availability: the participants had to indicate to what extent (on a scale of 1 to 5) they would be willing to accept a series of working conditions. For a person to work in a certain occupation and stay in it, among other things, they must want to and be able to work; the sum of both aspects reflects what is designated availability. The scale consists of a total of 24 elements grouped into the following subdimensions: Geographical availability (DGE), Availability for physical effort (DEF), Availability on schedules (DHR), Jobs or tasks that I do not like (APN), Unattractive conditions (ACP) and Sales (AVE). With a reliability of 0.79 (Alonso-García, 2004b), in this study the alpha coefficient obtained was 0.75.
7. Difficulties: this scale refers to possible obstacles or setbacks perceived by the person when looking for a job. Composed of 24 elements; the person must indicate the level of difficulty perceived (from 1 to 5) for each of them. In turn, it is subdivided into five subscales: Family Responsibilities (IRF), Training (IFO), Attributes (IAT), Personal Characteristics (ICP) and Jobseeking Skills (IHB). The instrument provides a final open response item. With a Cronbach's alpha of 0.85 (Alonso-García, 2003), the reliability obtained in this work was 0.82.
8. Fears: a scale composed of different situations that can be a source of fear in the jobseeking process. With a Likert-type five-point response format, the person points out to what extent or how intensely (from 1 to 5) they generate fear. It consists of 29 items grouped in turn in six dimensions: Fear of not measuring up (ENT), Fear of working hard, without a schedule and under rigid rules (ETM), Fear of selection processes (EPS), Fear of not being able to develop my talent at work (EDT), Fear of not knowing the future (EDF) and Fear of making a bad impression (EQM). The instrument provides a final open response item. With a total reliability of 0.93 (Alonso-García and Sánchez-Herrero, 2011), the alpha coefficient obtained in this study was 0.89.

Procedure

The sample was obtained through the Public Employment Service of Andalusia (Spain). Specifically, all the people who—from January to June 2018—attended a scheduled appointment with the Labour Orientation Service at centres in the province of Huelva, were explained the objectives of the research and asked for their collaboration.

Those who voluntarily agreed to take part (68% response rate), were taken to a separate room where, after signing the corresponding informed consent form guaranteeing the anonymity and confidentiality of their data, as well as its use exclusively for research purposes, they filled in the assessment instruments individually in the presence of their reference counsellor, who would have been trained to administer the tests.

Ethical Approval Procedures

The study was conducted in accordance with the Declaration of Helsinki and the procedure for carrying out this research work was analysed and ratified by the Provincial Commission of the Andalusian Employment Service (SAE).

This procedure was carried out through the SAE, in whose facilities this research was carried out. This Commission is a dependent body of the regional government of Andalusia and maintains professional relations with the University. It operates as an Institutional Review Board that ensures the proper functioning of the public institution and performs, among other functions, the planning, management, promotion and evaluation of the different programmes and actions for employment in Andalusia. In particular, it is responsible for monitoring and evaluating the activities of the SAE Agency and proposing the measures it deems appropriate to ensure good praxis as well as ethical and deontological adequacy.

As the Commission was in charge of reviewing and approving this research, the University of Huelva, the institution of the authors, did not act as an assessment committee, nor did it require its own approval for the development of this project. The researchers signed their respective documentation before the members of the Provincial Commission of the Andalusian Employment Service (SAE) to ensure their commitment to the anonymity of the sample and respect for the participants' rights.

Likewise, inclusion in the study was engaged ensuring the willingness to participate, full information about the process and the confidentiality of the interviewers. To this end, the consent obtained from the interviewees was both informed and written to ensure the correct ethical procedure.

Data Analysis

The data analysis was carried out with the statistical package SPSS 22. First, the internal consistency of the assessment instruments administered was estimated, obtaining the Cronbach's alpha reliability coefficients. We then performed a univariate analysis of the research variables, calculating central trend and dispersion statistics for the continuous variables, as well as frequencies and percentages for the categorical variables. For the comparison of metric variables, after checking normality by way of the Kolmogorov–Smirnov test, bivariate analyses were carried out, specifically Student's *t*-test for independent samples. Finally, Pearson's r correlation coefficient was determined in order to analyse the intercorrelations between the study variables.

RESULTS

In relation to the results obtained in this work, **Table 1** first shows the descriptive statistics (means and standard deviations) of the variables studied in this work, as well as the corresponding comparisons of means carried out between older unemployed people and those under 45. As shown in this table, statistically significant differences appear in the job loss grieving process between both groups, with the elderly unemployed living the process with greater intensity ($t = -15.599$; $p = 0.000$). Likewise, they also experience a more intense grieving process both immediately after losing the job and at present, with statistically significant differences in both cases ($t = -14.639$; $p = 0.000$ and $t = -15.023$; $p = 0.000$, respectively).

Moreover, in relation to the potential for workplace insertion or employability, expressed through the variables Work Centrality, Goals, Availability, Difficulties and Fears in the jobseeking process, the results obtained were as follows: Regarding the first variable, Work Centrality, the data indicate the presence of significant differences in terms of absolute ($t = -11.3711$, $p = 0.000$) and relative centrality ($t = -4.406$, $p = 0.000$). In this sense, it is the older unemployed who attribute greater importance to work overall. Regarding the relative centrality, for the older group, the most important areas of life are, in this order, family, work, studies and life partner, whereas in the rest of the unemployed participants work appears as the most important area, followed by the life partner, friends and family. In contrast, no differences are detected in terms of preferences (work goals) about what both groups want to obtain from work.

Likewise, for Availability, a relevant variable that influences the acceptance or rejection of certain types of job as shown in **Table 1**, we observed statistically significant differences in four of the subdimensions considered of this variable. On one hand, Geographical Availability ($t = 1.998$; $p = 0.048$) and Sales ($t = 2.829$; $p = 0.005$), with older jobseekers in both cases stating to a lesser degree that they would not accept jobs that involved those working conditions. And, on the other hand, Jobs or tasks I don't like ($t = -16.140$; $p = 0.000$) and Unattractive Conditions ($t = 8.593$; $p = 0.000$), working situations that in this case would be accepted to a significantly greater extent by the older unemployed.

Regarding the difficulties perceived in general by the participants in jobseeking, statistically significant differences are also observed between both groups ($t = -2.424$; $p = 0.017$), with older unemployed people clearly perceiving greater obstacles to their rejoining the labour market owing to their family responsibilities ($t = -2.824$; $p = 0.004$), their attributes ($t = -2.640$; $p = 0.010$), or their jobseeking skills ($t = -2.096$; $p = 0.040$).

Finally, in relation to the fears perceived by unemployed people in the jobseeking process and related situations, the results show that statistically significant differences only appear between older unemployed people and the rest of the workers in the factor Fear of hard work, with no schedule and strict regulations ($t = 14.772$; $p = 0.000$), with the older unemployed in this case being the subjects that held lower levels of fear toward aspects such as not having a flexible timetable, a stressful job or one that limits their free time, or being subject to rigid rules.

On the other hand, in relation to the interrelationships between grieving and the different variables involved in employability, **Table 2** shows the correlation coefficients obtained between the different variables in order to determine whether the greater or lesser intensity with which older unemployed people experience grieving is related to their potential for employment. In this sense, we find a positive association between the total grief intensity and the importance that the elderly unemployed give to work, both in terms of the role to be played in life

TABLE 1 | Descriptive statistics of the variables and comparisons of means between groups.

	Age group						
	Below 45 years (*n* = 74)		Over 45 years (*n* = 66)		t	gl	p
	M	*SD*	M	*SD*			
Centrality							
Absolute importance	3.08	1.39	1.73	0.89	6.93	125.36	0.00
Relative importance	1.99	0.91	2.73	1.07	−4.41	138	0.00
Absolute centrality	4.96	0.63	6.32	0.77	11.37	125.92	0.00
Work goals							
Partner	4.32	1.21	3.97	1.33	1.65	138	0.10
Family	3.58	1.22	4.68	0.73	6.58	121, 29	0.00
Friends	3.80	1.17	3.86	1.13	−0.34	138	0.73
Work	4.58	0.76	4.62	0.55	−0.35	138	0.72
Religion	2.15	1.32	2.21	1.35	−0.28	138	0.78
Studies	3.09	0.76	4.50	0.66	−11.59	138	0.00
Hobbies	3.42	1.10	3.59	1.12	−0.91	138	0.36
Volunteering	2.92	1.23	2.91	1.44	0, 04	128.77	0.97
Availability							
Total	77.35	12.83	78.98	14.36	−0.71	138	0.48
DGE	15.36	7.65	12.98	6.43	1.98	138	0.05
DEF	11.74	2.45	11.21	3.09	1.13	138	0.26
DHR	14.23	2.95	13.59	3.82	1.10	121.89	0.27
APN	4.46	1.48	8.42	1.41	−16.14	138	0.00
ANR	15.93	2.71	15.07	3.00	1.77	138	0.08
ACP	8.12	2.18	11.32	2.22	−8.59	138	0.00
AVE	7.50	2.19	6.38	2.50	2.83	138	0.00
Difficulties							
Total	48.46	20.60	110.50	216.22	−2.32	66.08	0.02
IRF	7.10	2.88	13.17	17.36	−2.80	68.28	0.01
IFO	10.81	15.80	9.64	3.21	0.59	138	0.55
IAT	8.65	3.05	27.17	56.90	−2.76	136	0.01
ICP	13.39	5.23	41.89	134.80	−1.72	65.17	0.09
IHB	9.05	3.66	18.64	36.98	−2.10	66.13	0.04
Fears							
Total	75.22	22.69	69.46	22.42	1.49	135	0.14
ENT	18.36	9.37	18.30	8.30	0.04	138	0.97
ETM	14.27	2.09	7.82	2.94	14.77	115.91	0, 00
EPS	11.69	4.34	12.20	4.77	−0.66	136	0.51
EDT	7.47	3.19	7.95	3.90	−0.79	123.83	0.43
EDF	16.70	6.25	17.38	5.81	−0.66	138	0.51
EQM	6.72	3.65	6.14	3.39	0.97	138	0.33
Grief							
Total	39.08	13.13	81.54	18.54	−15.90	138	0.00
Past	14.27	4.84	30.64	7.85	−14.64	105.76	0.00
Recent	24.81	9.16	51.27	11.34	−15.25	138	0.00

M, mean; SD, standard deviation; t, test T; gl, degrees of freedom; p, level of significance.

overall ($r = 0.696$; $p = 0.000$), and of other aspects of life (relative centrality, $r = 0.391$; $p = 0.000$). Significant intercorrelations are also found between the grief close to the moment of job loss and that experienced at present.

Other dimensions with which the intensity of the experience of grieving by older jobseekers positively correlates are the subdimension "family responsibilities" ($r = 0.263$; $p = 0.043$) from the Perceived Difficulties scale, as well as the sub-dimensions "Jobs or tasks I don't like" ($r = 0.795$; $p = 0.000$) and "Unattractive conditions" ($r = 0.656$; $p = 0.000$) from the Availability scale. Finally, regarding fears, a correlation is found, negative in this case, with the dimensions "Fear of working hard" ($r = -0.752$; $p = 0000$). As for the work goals, there is no interrelation between the experience of grieving and any of the subdimensions.

TABLE 2 | Intercorrelations found between the intensity of grief and "employability" measures.

	Total grief	Past grief	Current grief
Centrality			
Absolute	0.696**	0.686**	0.683**
Relative	0.391**	0.403**	0.372**
Work goals			
Personal development	−0.09	−0.075	−0.161
Professional development	−0.045	−0.050	−0.037
Independence at work	−0.154	−0.097	−0.215
Convenience/comfort	−0.049	−0.050	−0.037
Instrumental index	0.081	0.014	0.001
Availability			
DGE	−0.191	−0.196	−0.250
DEF	0.075	−0.061	−0.078
DHR	0.011	−0.077	−0.166
APN	0.795**	0.775**	0.785**
ACP	0.656**	0.685**	0.621**
AVE	0.119	−0.215	−0.209
Difficulties			
IRF	0.263*	0.274*	0.249*
IFO	−0.060	−0.076	−0.048
IAT	0.162	0.158	0.161
ICP	0.167	0.170	0.161
IHB	0.197	0.193	0.194
Fears			
ENT	0.018	0.002	0.028
ETM	−0.752**	−0.758**	−0.728**
EPS	0.129	0.074	0.159
EDT	0.106	0.093	0.111
EDF	0.075	0.063	0.080
EQM	−0.054	−0.037	−0.063

*$p < 0.05$; **$p < 0.01$.

DISCUSSION

The current economic recovery in the European Union, after a difficult recession period, has reactivated the creation of jobs at a good pace, even though this binomial economic improvement/increase in employment does not occur at the same rate as in the northern and central European Union countries—where the progress is positive—compared to the countries of the south (Portugal, Italy, Greece and Spain). In the latter, there is an additional phenomenon of long-term structural unemployment that affects almost half of its unemployed population. And in this situation, older workers are the group most affected, with the harmful effects that this socially exclusive situation of long-term unemployment brings to the person who suffers it: loss of self-esteem, lack of motivation and decrease in jobseeking attitudes (Oña, 2014).

In the case of Spain, 757,000 of the 1.2 million people out of work aged 45 to 59 in 2017 were long-term unemployed, which is 63% of the total, a figure much higher than the average long-term unemployment in other age groups. This is compounded by the fact that becoming unemployed for an older worker means a great risk of never being able to return to employment, as the data indicate that over 40% of them will still be out of work 12 months later. Even worse, if they exceed this threshold, the likelihood of remaining unemployed at 24 months is 80% (Bentolila et al., 2017). This difficult escape from unemployment causes many of these jobless older workers to desist from actively seeking employment and become inactive and discouraged. In the study by Bentolila et al. (2017), only 30 out of every 100 older unemployed workers wanted to work and showed enthusiasm for seeking employment. The rest claimed that they had no hope of escaping their unemployed situation, believing that they would never find a job. The results confirmed, moreover, that the probability of escaping unemployment gradually dwindles along with age. Being 10 years older translates as an increase in the unemployment rate after 12 months between 5.4 and 7.4%, with unemployed people with a higher educational level being least likely to enter the labour market, among other reasons, due to their greater reluctance to accept any job and precarious working conditions. The risk of social and economic exclusion among long-term unemployed persons in this age group is thus real and considerable.

However, in addition to considering age as an important factor in the behaviour of individuals toward the job market, the negative consequences of becoming unemployed are greater as the involvement with work increases. Work provides day-to-day activity with a temporal structure, enables the forging of social relationships with other people outside the family nucleus, generates other goals of a social nature, reinforces the development of an activity and defines the identity and status of the person (Jahoda, 1987); in other words, it provides a series of latent functions beyond merely economic resources. The consequences of unemployment would therefore be explained by the loss of these latent functions. This situation is exacerbated when we apply it to certain age groups which, without being considered excluded from the dynamic of insertion into active life, present certain characteristics that make them highly vulnerable, as is the case of older workers.

The first results found in our study, indicating greater intensity and duration of grieving due to job loss in older workers than in other ages, are located in the two lines of argument stated so far. On the one hand, that involvement in the job is related to the worker's age, and this would indicate a greater impact on the loss of that job the older the worker is; and a second argument that highlights the negative perception of older workers in terms of returning to work, based on the data provided by the labour market.

This involvement with the "thing" lost, the job, as well as the hopelessness of not recovering it again, supposes a situation very similar to "chronic grief" (Bonanno et al., 2004), which identifies that the greater intensity and length of grieving, the greater the dependence and affective bond the person had with the person, thing or situation lost. Moreover, studies such as those of Stroebe and Stroebe (1987) or those of Schulz et al. (2006) have shown that the most vulnerable people are more prone to the development of complications

in the process of grieving due to loss, with some of these complications being related to the intensity and prolongation of the grieving process.

On the other hand, the situation of risk of exclusion to which unemployment usually leads older workers, due to the differential features of the group that make it more vulnerable to an exclusionary labour market that causes uncertainty and insecurity, is compounded by the low social visibility of this problem. This occurs despite the harshness of the situation faced daily by the unemployed in this age group, as social and workplace insertion efforts are mainly focused on other groups with greater visibility, such as young people (Centre of Research and Documentation on issues of Economy, Employment and Professional Qualifications [CIDEC], 2012). This lack of social support is corroborated in the data that were gathered in relation to the greater intensity and prolongation of grieving due to job loss in older people. This is one of the protection factors most cited in studies on psychological grief (Sanders, 1999) and, therefore, a risk factor for chronic grief, as when the person suffering the loss feels that they do not have adequate or expected social support, the grief intensifies and becomes prolonged.

Regarding the data obtained that tell us about similar intensity and duration of grief in older workers regardless of the time elapsed since losing the job, agreements were found with most studies on grief, in which no significant differences in the levels of grieving are found (Schwab et al., 1975). However, Prigerson et al. (2002) noted that the symptoms of chronic grief are resolved through time. Nevertheless, many of the studies on intensity and duration of grief were carried out after only short periods of time since the loss, usually only a few months, which might explain the minimal differences observed between groups.

Several studies indicate that the consideration of work as a central value in a person's life is directly related to age (Lipovetsky, 2008). Thus, Cogin (2012) states that age represents a factor that enables or conditions the way work is conceived, and that this relationship is modulated by specific occupational circumstances (García et al., 2001). Different sectors compare the significance of the work of the younger population, understanding it as a rather frivolous activity and lacking any major importance beyond the strictly material, in contrast to the adult sectors that value it as a personal and collective duty (Morrison et al., 2006; Fenzel, 2013).

As to the significance and centrality of work in unemployed groups, recent studies indicate that unemployed workers present a high degree of work centrality, both absolute and relative, caused precisely by the scarcity or inability to find paid employment. However, the fundamental motivating value is mainly limited to the instrumental objective—in other words, earning income (Izquierdo and Alonso, 2010; Padilla et al., 2012).

This trend toward increased centrality in relation to the age of the person, as well as the verification of high levels of significance given to work in unemployment situation, is related to the outcomes in our study, finding that older unemployed people attribute greater importance to work in global terms. Regarding the relative centrality for the older group, the most important life areas are, in this order, family, work, studies and life partner. Meanwhile, in the other unemployed participants, work appears as the most important area, followed by the life partner, friends and family, on a scale of greater to lesser importance. As noted earlier, the social exclusion situation of older unemployed workers becomes exacerbated by their low social visibility. In general terms, this means little social-institutional support, with few specific initiatives for the insertion of this collective. Along with the phenomenon designated by authors such as Segura and Topa (2016) as "identification with older workers," and which refers to the internalisation of negative beliefs and attitudes toward older workers by older workers themselves, this causes these people to focus their efforts, emotions and values in the family, in a clear strategy of "social refuge."

As for the results obtained in relation to the difficulties perceived in the search for employment, and which highlight significant differences among the older workers compared to the rest of the participants in the study, works such as that by Juan et al. (1998) point to the relationship between the information available to individuals about the labour market and the forming of expectations of control over the achievement of employment. They observe a clear relationship between unemployment rates and variables such as the level of information available to the unemployed, the level they believe they have in relation to what they consider necessary to be successful in the job market, or the levels of job placement expectations that the unemployed themselves have. These authors related it to Seligman's theoretical postulates of learned helplessness, in that it is not necessary to have been subjected to direct experiences of objective uncontrollability to form expectations of not having control over the results. In this sense, it is possible to understand that older workers, among other reasons due to a generalised low perception of self-efficacy in terms of understanding the current job market, as well as the keys and techniques for successful insertion, have internalised this situation by perceiving it as an important obstacle in their search for a job.

On the other hand, García and García (2008) emphasise that there is a significant association between age and preference to accept certain conditions. Thus, the older the unemployed person, the less predisposed they will be to accept precarious situations (with no contract), with lower remuneration than the established norm, or accept part-time jobs. This positioning would influence the older worker's perception of their possible workplace insertion, as by opting for jobs in proper conditions, they understand that their possibilities are reduced, and much more so in an increasingly precarious market that ousts older workers in order to replace them with younger people whose rights and salaries it curtails.

Moreover, in terms of availability, the older jobseekers in the study would accept jobs that involved working conditions that required high availability, as well as jobs and tasks that they did not like and in unattractive conditions. Again, the scant expectations of finding a job in this collective—due to the adverse job market conditions, little social visibility, lack of institutional support and their own negative self-image regarding their insertion—mean that in the event of our hypothetical

job offer, they present high availability, which allow them to adapt to the conditions of the job, even accepting unattractive conditions, although without going so far as to be precarious. These outcomes contrast with those of other studies such as that carried out by Alonso-García (2004b) into what a sample of Spanish unemployed people would accept or reject regarding a job, finding that the older subjects presented lower availability.

Regarding the fears perceived by unemployed people in the jobseeking process and related situations, there were significant differences between older unemployed workers and other jobseekers in the fear of hard work, without set timetables and under strict rules, and in this case it was the older workers who perceived lower levels of fear toward these aspects. According to Alonso-García and Sánchez-Herrero (2011) fear of hard work is usually associated with the need for control. In this sense, the relationship between insecurity and loss of control in the context of work and organisational change, and how this situation comes about, mainly in older workers, is well-known. In short, and as stated by Krumboltz et al. (1976), we must detect these fears, analyse them and intervene if they act as barriers to the individual's incorporation into the labour market.

Montalbán (1994) points to the positive linear relationship between age and involvement in work, which would explain that the older workers in our study are those with the least fear of working hard, without schedules or under rigid rules. In turn, Mathieu and Zajac (1990) found positive correlation indexes between age and organisational commitment. These data would be in line with some models (Meyer and Allen, 1984) that suggest how older workers increase their commitment for a variety of reasons, including a greater predisposition to positive work attitudes.

Regarding the results in the present study, and which relate grieving due to job loss to the variables that make up the employability of older jobseekers, we found significant evidence that the higher the work centrality presented by the older worker, the more the job loss grieving process intensifies. And this situation comes about whether the older worker values the job as a role to be played in life overall, or in terms of other aspects of life.

Rodríguez-Montalbán et al. (2017) state that work centrality positively predicts intra- and extra-role performance, through harmonious passion, understood as a strong inclination toward an activity which the person likes, which they consider important, which is part of his identity and on which they spend a significant amount of time and energy (Vallerand et al., 2010). That is, the job reflects a part of the identity of the person who deems it important and central to their life, so they develop the inclination toward it (Vallerand, 2015). Following this approach, the more central the job becomes as part of their identity, the more passionate these people will feel toward it (Murnieks et al., 2014) and, in contrast, they will also experience more intense grief at the moment the object of their passion, i.e., the job, is lost.

Another aspect of the relationships brought to light in our study, and which affects older workers in relation to other workers of younger age, is characterised by the intensity of the experience of grief and some perceived difficulties in the search for employment, specifically family responsibilities, accepting positions or tasks that they do not like and accepting jobs with unattractive conditions. An intensive grieving process is similar to a traumatic event that generates anxious-depressive symptoms and gives rise to a profound transformation of the vision of life and the most intimate values of the person who suffers it Echeburúa (2004). It is therefore to be expected that the grieving person will feel little enthusiasm for seeking and accepting work, and even more so if this job is in an activity or post that bears no relation to their professional profile, or involves unattractive or demotivating tasks, or if the conditions associated with this position—such as salary, schedule, category, etc.—are not appealing to the individual.

CONCLUSION

Loss of employment and the psychological and health consequences of this situation are identified with those that arise in the grieving process. In this sense, older workers present a series of features that determine that their job loss grieving process is more intense and lasts longer than that of other younger workers, regardless of whether the job loss was recent or not. These characteristics are related to the lack of social support due to the group's invisibility and the scarcity of public support measures, the negative perception of older workers in terms of assessing their chances of returning to work, as well as the great involvement with work in employees at this age and which is related to an increase in negative consequences in the event of losing the job.

In relation to the analysis of the variables that make up the level of employability in older workers compared to their younger peers, the study shows conclusive data regarding a higher level of work centrality, both relative and absolute in the former with respect to the latter. As for the greater difficulties perceived in jobseeking by the older workers compared to the younger ones, this can be explained, among other reasons, by a low perception of self-efficacy in terms of understanding the current labour market as well as of the keys and techniques to successful insertion.

In terms of availability, the older jobseekers in the study would accept jobs that involved working conditions that required high availability, as well as jobs and tasks that they did not like much and in unattractive conditions, which may be explained by their scant expectations of finding work. In relation to the perceived fears, it is the older workers who hold higher levels of fear of working hard, without schedules and with rigid rules.

As to the results that relate grieving for job loss to the variables that conform the employability of older jobseekers, we found significant evidence that the greater the work centrality manifested by the older worker, the more the job loss grieving process intensifies. This may be explained by the foreseeable relationship of centrality with the passion for work, with the loss of employment being felt more intensely in these circumstances.

Finally, the study found significant relationships between the intensity of grief and the perceived difficulties in finding a job: family responsibilities, accepting jobs or tasks that they do not like and accepting jobs with unattractive conditions.

Limitations

The main limitation of this study consisted of recruiting a sufficient number of people to make up a significant sample. Unemployed people in general, in many cases, suffer a process of discouragement and burnout, which in many cases has led to mistrust of employment services, as they understand that they have been unable to respond to their needs. Moreover, they are submerged in very complex bureaucratic processes that only impose an additional burden on their psychological state. The feeling of abandonment by the administrations and the need to obtain a job, or a decent job, are their main objectives. So, the willingness to take part in this type of research, in many cases, requires extra effort from the unemployed as well as the researchers. On the other hand, coping with grief has always been analysed from the perspective of the loss of a loved one. It is very difficult to find studies that address this process in terms of job loss, in order to draw exhaustive comparisons with other groups.

AUTHOR CONTRIBUTIONS

JC-R and YN-A conceived and designed the study, with the assistance of ML-L, JG-S, and MG. YN-A and ML-L carried out the analyses, with contributions from all the other authors. The main versions of the manuscript were written by JC-R, with contributions from all the other authors. All the authors participated in the interpretation of the results and approved the final version and are jointly responsible for an appropriate review and discussion of all aspects included in the manuscript.

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Self-Employment in Later Life: How Future Time Perspective and Social Support Influence Self-Employment Interest

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For older workers, self-employment is an important alternative to waged employment. Drawing on social learning theory and social cognitive career theory we examine how attitudes toward one's own aging, future time perspective (captured by perceived time left to live) and perceived support from referent individuals predict self-efficacy for entrepreneurship and outcome expectations, influencing self-employment interest. Findings from a sample of professional association members (n = 174, mean age 52.5 years), revealed that an open-ended time perspective relates positively to entrepreneurial self-efficacy, while social support relates positively to outcome expectations. Consistent with social cognitive career theory, entrepreneurial self-efficacy mediated the relationship between future time perspective and interest in self-employment, and outcome expectations mediated the relationship between social support and interest in self-employment. This study extends current career and entrepreneurship theory in several ways. First, the inclusion of age-related psychosocial and sociocultural factors in the study model shed light on the intersection between older age, the contextual environment and development of self-employment interest. Second, the findings support earlier arguments that older entrepreneurship is a social process whereby the social context in which people work and live influences their interest in entrepreneurship, and that entrepreneurial behavior among older people needs to be supported to occur. Finally, the findings suggest the utility of social cognitive career theory in informing the development of self-employment interest in the late career stage. We discuss implications for the career and entrepreneurship literatures as well as practitioners involved in late-career counseling or seeking to promote entrepreneurship for older people.

Keywords: social cognitive career theory, social support, future time perspective, self-employment, older workers, entrepreneurship

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INTRODUCTION

Older workers will become an ever-increasing segment of the workforce in developed countries with many older workers expected to work beyond 'normal' retirement age (Maritz, 2015; Kautonen et al., 2017; Stirzaker and Galloway, 2017). Consequently, workforce aging has become a policy focus driven by the efforts to delay retirement and dependency on government resources. With the emphasis on working longer, older individuals are increasingly seeking sustainable career options.

However, the concept of a second or even third career is novel, as such we have an incomplete understanding of how older workers formulate career interests and goals.

Late career is widely conceptualized as the period prior to retirement, commencing when a worker is around 50 years of age and mid-career as the period from 35 to 50 years of age (Van der Horst et al., 2016; Kautonen et al., 2017). Individuals are likely to develop interests and goals for their late-career from late in their mid-career onwards (approximately 45 years of age onwards). This time also coincides with the age at which workers begin to perceive themselves as 'older workers' in part because of increased difficulty obtaining employment, experiences of age-related biases and discrimination, and the awareness of the onset of physical and cognitive decline (Curran and Blackburn, 2001; Kibler et al., 2012).

The idea of working longer challenges our understanding of 'career', commonly conceptualized as the 'sequential, predictable, organized path through which individuals pass at various stages of their working lives' (Holmes and Cartwright, 1993, p. 37) ending in full withdrawal from the workforce. This conceptualization of career does not reflect contemporary working life (van Loo, 2011). More than ever careers are unlikely to be sequential, predictable or hierarchical in nature (Holmes and Cartwright, 1993; Voelpel et al., 2012); individuals are likely to switch job and occupations in what is often described as a 'boundaryless career' (Arthur, 1994; Sullivan and Emerson, 2000). Additionally, a contemporary career requires individuals to actively self-manage their career journey rather than be passive participates in a well-defined career path (Hall, 1996; van Loo, 2011).

Elements of the contemporary career are evident among older workers who may transition careers, move in and out of retirement and move from paid employment to entrepreneurship (Alcover et al., 2014). Notably, self-employment is promoted as a means for older individuals to delay retirement or create employment for themselves (Singh and DeNoble, 2003; Kautonen et al., 2017). The attitudes and motivations of older people who take up self-employment has not been extensively researched. The available research suggests that the motivations of older entrepreneurs may differ from younger cohorts embarking on an entrepreneurial career path. For example, older workers may be responding to negative experiences in corporate life, such as age-related discrimination and job loss (Curran and Blackburn, 2001; Kibler et al., 2012), or seeking an income for themselves, on their terms. However, it is also apparent that being enterprising in later life is inconsistent with the accepted narrative regarding aging at work, which is focused on withdrawal and decline (Ainsworth and Hardy, 2008). This narrative suggests that older individuals may be deterred from making enterprising career choices and may be unsupported.

The research concerning older entrepreneurs is sparse (Wang and Shi, 2014; Zolin, 2015, p. 36; Gielnik et al., 2018) which is not unexpected given its emergent nature. Previous researches have identified how the choice of an entrepreneurial career intersects with diversity markers such as gender and ethnicity (Wheadon and Duval-Couetil, 2017; Griffin-EL and Olabisi, 2018). However, there has been limited research on how entrepreneurship intersects with age, specifically old age (Ainsworth and Hardy, 2008; De Kok et al., 2010). Older individuals have been included in the advancement of 'inclusive entrepreneurship' along with other minority groups in parts of Europe (Pilkova et al., 2014). However, age is arguably a unique dimension of diversity as everyone will eventually become older, while age-related markers are almost impossible to hide (Ainsworth and Hardy, 2008).

The literature identifies several personal and background factors which may well differentiate older people becoming first time entrepreneurs from younger cohorts, such as extended time for skill development (Davidsson and Honig, 2003; Ahmad et al., 2012), work and life experience, maturity, and wisdom (Botham and Graves, 2009; Gordon and Jordan, 2017), favorable financial status (Kibler et al., 2012; Stirzaker and Galloway, 2017), expansive career and social networks (Davidsson and Honig, 2003; Ahmad et al., 2012) and age-related health concerns (Curran and Blackburn, 2001; Radford et al., 2015). Additionally, with increasing age comes the challenge of diminishing available time, complex social roles (i.e., caring responsibilities) and navigating the influence of age-related stereotypes and prejudices (Kautonen et al., 2011; Kibler et al., 2012).

The entrepreneurial environment may also play a salient role in determining the level of older entrepreneurship. Clarke and Holt (2010) argue that coming up with a novel business idea is not enough for a new venture to be successful, the ideas must also be publicly acknowledged and supported. There is evidence suggesting that cultures which accept seniors have a strong positive influence on the incidence of older entrepreneurship (Weber and Schaper, 2004; Zhang, 2008). However, there is also evidence to suggest that older entrepreneurs may be socially excluded. For instance, Kibler et al. (2015) concluded that if entrepreneurship in later life is to be cultivated there will need to be increased awareness of potential age-related discrimination and strategies developed for managing these. Furthermore, the social discourse regarding older workers in an enterprising context is principally negative and reinforces many of the stereotypes of older people as workers in general. As entrepreneurs, the discourse suggests that "older workers make bad consumer decisions, e.g., buy a business on impulse" and "as entrepreneurs are 'a risky project,' they want too much safety and security, and they take irresponsible risks" (Ainsworth and Hardy, 2008, p. 395). Consequently, the relationship between older age and entrepreneurship remains unclear and is both interesting and important from a career choice and entrepreneurship perspective.

Anchoring in the social cognitive career theory (SCCT) framework, this study makes a contribution to our understanding of how late career interest develops, more specifically interest in self-employment, in an overlooked group (older workers), adding to the growing body of recent SCCT research among older workers (Wöhrmann et al., 2013; Garcia et al., 2014). Additionally, although older workers are often contextualized as a homogenous group, with a focus on chronological age, the identification of age-specific background and personal factors which influence late career choice suggest that career interest development in later life is complex and multi-faceted. As such, late-career decisions are dynamic and idiosyncratic adding

support to the emerging body of career research suggesting that older workers are heterogeneous (Sterns and Miklos, 1995; Bal and Jansen, 2015) and will require individual late career working arrangements that can meet each individual's motivations and needs.

THEORY AND HYPOTHESES

The intention to become self-employed can be conceptualized as a career choice, which we argue is compatible within the explanatory scope of SCCT (Lent et al., 1994). While SCCT has been predominantly applied to career choice, more recently it has been successfully applied to understand the formation of entrepreneurial intentions and career adaptability across the lifespan (Lanero et al., 2016; Lent et al., 2016, 2017).

Within the SCCT framework, Lent et al. (1994) propose a model explaining how career interests are developed overtime, influenced by cognitive and behavior factors. **Figure 1** depicts our conceptual model. The formation of interest (i.e., likes, dislikes and disinterests toward a career or occupation) is hypothesized by Lent et al. (1994) to be an antecedent to career choice. When applied to self-employment the SCCT interest model hypothesizes that before any entrepreneurial-related activity is commenced individuals go through a preparatory phase, where interest emerges. This preparatory phase is also alluded to in the entrepreneurship literature as a conception and gestation stage which occurs before any action is taken to start a business (Aldrich and Martinez, 2001), although there has been little research examining this stage. Studies which have explored the pre-venture stage have frequently studied nascent entrepreneurs or individuals already involved in starting a new venture (Soutaris et al., 2007), which only provides limited insight on how interest emerges.

In the SCCT interest model, Lent et al. (1994) hypothesizes that perceptions of self-efficacy and outcome expectations predict career interest. Self-efficacy is an individual's belief that they can do a particular task, is developed over time (Bandura, 1982), and influenced by various learning experiences: enactive attainment; accomplishments; vicarious experiences (observational learning, modeling, and verbal persuasion); and an individual's psychological state (Bandura, 1986). The nature and availability of learning experiences is influenced by background and personal factors. For example, being older may restrict what learning experiences are accessed, as well as the support and feedback received. Repeated performance accomplishments and mastery experiences are considered the most effective way to develop efficacy beliefs (Bandura, 1977, 1982; Wood and Bandura, 1989; Scherer et al., 1991). While vicarious learning is argued to be less effective for developing efficacy beliefs capable role models can affect self-efficacy through social comparison (Gist, 1987; Wood and Bandura, 1989). For example, older individuals who are successful in the career or self-employment domain can lead other older individuals to believe they can be successful too.

In addition to self-efficacy, Lent et al. (1994) hypothesize that the beliefs an individual holds about what the outcome response might be from performing a particular behavior influence the development of career interests. Further, outcome expectations are predicted to be partially influenced by self-efficacy as individuals will anticipate a more positive outcome if they have the belief they will succeed and can predict success (Wöhrmann et al., 2013).

There is a significant body of research which has identified self-efficacy and outcome expectations as important predictors of interests in both the career and entrepreneurial context (Segal et al., 2005; Zhao et al., 2005; Drnovšek et al., 2010; Lent et al., 2010; Sheu et al., 2010; De Clercq et al., 2013; Mortan et al., 2014; Tsai et al., 2014). Self-efficacy for a career domain gives people a sense of confidence and motivates them to work toward careers they perceive as attainable. However, Lent et al. (1994) also argues that the influence of self-efficacy and outcome expectations (individual or together) on behavior will depend on the type of behavior. Entrepreneurship is a high-risk endeavor. Hence, in the case of costly decisions SCCT proposes that both self-efficacy and outcome expectations influence interest directly. For instance, an individual with high self-efficacy for entrepreneurship would not develop an enduring interest if they anticipated a negative outcome (e.g., non-support of referent others, conflict, or financial loss).

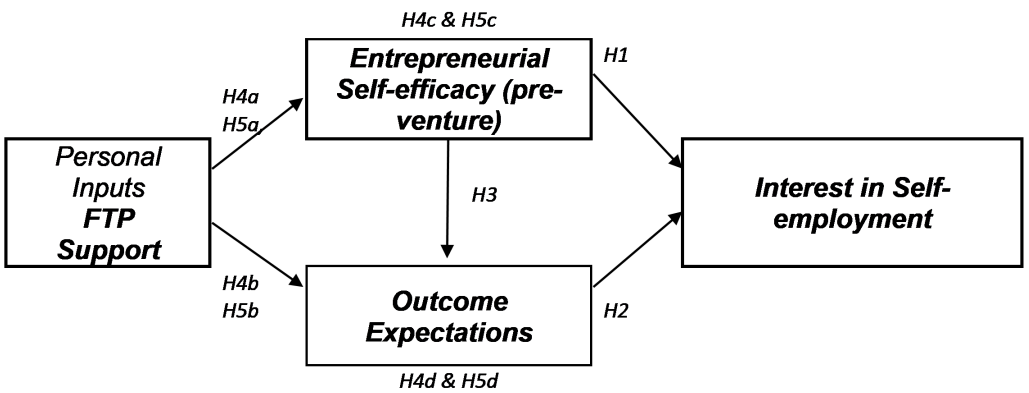

FIGURE 1 | Conceptual model of self-employment interest in older workers.

Entrepreneurial Self-Efficacy and Outcome Expectations

Self-efficacy for entrepreneurship is characterized by entrepreneurial self-efficacy (ESE). ESE is commonly described as the confidence of entrepreneurs to undertake specific tasks in the entrepreneurial domain or confidence in the personal ability to realize the business start-up process (Chen et al., 1998; Segal et al., 2005). The influence of self-efficacy in the development of entrepreneurial intentions has primarily been examined with young college students. Nevertheless, there is strong empirical support for the argument that individuals with high ESE are more likely to be interested in entrepreneurship (Chen et al., 1998; Zhao et al., 2005), and take steps to become entrepreneurs (Townsend et al., 2010). Therefore, we expect that self-efficacy for the tasks related to entrepreneurship helps explain the development of entrepreneurial interest among older workers; those with higher levels of ESE will be more likely to express an interest in self-employment. Thus, it is predicted that:

H1: Entrepreneurial self-efficacy will be positively related to interest in self-employment.

In addition to ESE, SCCT predicts that outcome expectations —OE will also influence self-employment interest. OE differs from self-efficacy, which is a belief about being able to do something, as it involves the imagined consequences of performing a behavior. Bandura (1986) suggested three types of OE: physical, such as money; social, such as approval; and self-evaluation, leading to satisfaction. In the context of this study, OE refer to expectations about the outcome from self-employment; for example, an individual might expect the outcome from starting a business to be job satisfaction, skill development or financial reward. In both the career and entrepreneurship literature, there has much less emphasis on outcome expectations as the determinant of career interest or action (De Clercq et al., 2013; Lanero et al., 2016). However, SCCT points out that an individual will act on their beliefs of what they can do [self-efficacy], as well as on their expectations regarding the likely consequences of those actions (Bandura, 1986; Lent et al., 2010). Consequently, we expected that OE are related to self-employment interest. Thus, it is predicted that:

H2: Outcome expectations will be positively related to interest in self-employment.

Social cognitive career theory also predicts that self-efficacy causally influences outcome expectations (Bandura, 1986). Additionally, in the career literature self-efficacy has been shown to predict career choice goals both directly and through outcome expectations (Sheu et al., 2010). For instance, individuals who feel efficacious about an activity are more likely to also anticipate a positive outcome from undertaking that activity. Bandura (1986) further predicts that self-efficacy is the more influential determinant. Additionally, Searle (2001) argues that an individual's consciousness of their personal capability forms the foundation of human action. Where an individual does not perceive that they have the capability to undertake an action, they are unlikely to do so. Therefore, an older worker may believe that self-employment in later life would be a viable way to prolong their career and increase their income, but do not pursue the idea because they doubt their ability to start a business venture. Thus, it is predicted that:

H3: Entrepreneurial self-efficacy will influence outcome expectations.

Future Time Perspective and Self-Employment Interest Mediated by Entrepreneurial Self-Efficacy and Outcome Expectations

The nature of entrepreneurship requires the entrepreneur to develop and implement goals and plans which require a cognizance of and purpose for the future. Having goals for the future motivates individuals to achieve long-term goals which they value (McInerney, 2004). However, psychologists in the clinical and gerontology disciplines have for some time noticed age-related differences in how people engage in social activity and goal setting (Carstensen, 1993, 1995, 2006; Cate and Oliver, 2007).

One approach to explaining age-related differences in social behavior and goal setting is drawn from socioemotional selectivity theory (SST) which is grounded in lifespan theory (Carstensen, 1993, 1995, 2006; Carstensen et al., 1999; Lang and Carstensen, 2002; Carstensen and Lang, Unpublished). SST predicts the changes in social behavior across three social motives – emotional regulation, self-concept, and information seeking (Carstensen, 1993). While each of the social motives is present throughout the lifespan, it is argued that their salience changes over time (Carstensen, 1995). Specifically, individuals select their goals based on their perceptions of whether time is limited or open-ended referred to as future time perspective – FTP (Carstensen et al., 1999; Lang and Carstensen, 2002; Carstensen and Lang, Unpublished). Put simply, FTP refers to how much time individuals' perceive they have left to live (Cate and Oliver, 2007). This is quantified as time left being perceived as *limited or expanded (open-ended)* (Carstensen, 1993; Carstensen et al., 1999). When time is perceived as limited individuals are more likely to focus on short-term and emotionally meaningful goals such as emotion regulation or generative needs (Lang and Carstensen, 2002). In contrast, when time is perceived as open-ended individuals focus on longer-term goals including information seeking (Carstensen, 1995) and knowledge-related goals (Lang and Carstensen, 2002).

Future time perspective has been the focus of several studies examining work motivation (Sonnentag, 2012; Strauss et al., 2012). There has also been several small studies exploring the relationship between FTP and financial planning for retirement, retirement adjustment (Van Solinge and Henkens, 2009; Yang and Devaney, 2011; Griffin et al., 2012), and entrepreneurship (Gielnik et al., 2018). The results reveal how FTP influences long term goal setting and motivation. For instance, individuals with an expanded FTP preferred to retire later (Van Solinge and Henkens,

2009) and are less likely to plan financially for retirement (Yang and Devaney, 2011).

Consequently, SST is a useful theory to incorporate into the present research for two reasons. Firstly, SST has demonstrated empirically that social changes in later life are not only determined by chronological age but also cognitive and motivational changes (Carstensen, 1993). Secondly, the relevance of SST to this study comes from the understanding that career choices are made with a conscious or unconscious awareness that time is limited or open-ended. As a consequence FTP integrates the anticipated future into the present time (Seginer and Lens, 2015) and therefore is complimentary to a social cognitive model of career interest for older individuals (Zacher and Frese, 2009).

Future time perspective provides a useful lens to understand how age differences impact career choice as a consequence of an individual's perception of the time they have left to live, including the assessment of opportunities and goals available within that time (Carstensen, 1995; Lang and Carstensen, 2002). There are considerable differences in how much time older people believe they have left to live (Zacher and Frese, 2009). Fredrickson and Carstensen (1990) found that regardless of age where an individual imagines conditions outside of the normal life span (i.e., older person imagining an expanded future time or younger person imaging a restricted future time) chronological age differences in goal choice disappear. Therefore, time perspective may be more useful than chronological age in predicting social motivations and goals, including career choice.

Open-ended and limited time perspectives are distinguished by their differential effect on work motives (Carstensen, 1995; Kooij and Van De Voorde, 2011; Kooij et al., 2011) and are likely to also influence interest in self-employment in older individuals. A future orientation, enacted by a willingness to network, and seeking knowledge are closely aligned to the pre-venture dimensions of ESE. For instance, older workers with an expanded FTP may be more motivated to develop social relationships which are oriented toward future benefits and knowledge acquisition. Additionally, an expanded FTP may influence the assessment of extrinsic and intrinsic outcomes (gains and losses) from self-employment (Carstensen, 1995). For instance, an individual with an expanded FTP may perceive starting a business as an opportunity to gain future wealth and satisfaction rather than focusing on short-term risks such as the potential loss of having a failed business. More specifically, we hypothesize that older workers with an open-ended FTP will be more likely focus on their long-term career and are therefore more likely to be interested in prolonging their career through self-employment. Conversely, employees with a limited FTP will be more likely to focus on short-term positive emotions and retirement. Additionally, individuals with a more expanded FTP may perceive more favorable outcomes from self-employment than those with a limited FTP. Thus, it is predicted that:

H4a: FTP will be positively related to ESE.
H4b: FTP will be positively related to OE.

Further, in SCCT personal and background factors are theorized to indirectly influence the development of interest. Interest is argued by Lent et al. (1994) to be principally influenced by perceptions of self-efficacy and anticipated outcome expectations. Therefore, consistent with SCCT it is expected that the relationship between future time perspective and interest in self-employment will be mediated by ESE and outcome expectations. Thus, it is predicted that:

H4c: The relationship between FTP and interest in self-employment is mediated by ESE.
H4d: The relationship between FTP and interest in self-employment is mediated by outcome expectations.

Social Support and Self-Employment Interest Mediated by Entrepreneurial Self-Efficacy and Outcome Expectations

Theoretically, we argue that social support will act as a background affordance (Lent et al., 2003; Lent, 2005) indirectly influencing the development of self-employment interest. Differences in individual socialization such as verbal encouragement, role models, stereotypes, family values and anticipated approval can influence self-efficacy and outcome expectations (Hackett and Betz, 1981; Lent et al., 1994). For instance, role models, in addition to providing a referent for social comparison may also be sources of support through the provision of feedback and information (BarNir et al., 2011). Support provided in the form of positive feedback, approval and encouragement can influence self-efficacy beliefs (Bandura, 1986) by convincing an individual they can perform a task. Consequently, positive feedback and praise enhances self-efficacy (Bandura, 1977, 1986) while negative feedback decreases self-efficacy and outcome expectations.

The role of social support in the development of older workers' entrepreneurial career choice has become of interest to researchers seeking to understand the influence of the social context in which enterprises start. Researchers argue the importance of looking beyond the transaction of buying or creating a new venture to include the potential entrepreneur's social context (Weber and Schaper, 2004; Wainwright et al., 2011). The social network of older workers comprises four salient groups; (1) life partner (spouse); (2) family; (3) friends; and (4) work colleagues. Social groups may have different levels of salience over the various stages of venture creation. For instance, during the early stages, the *motivation* stage, individuals will discuss their ideas with a small group of close contacts – possibly just close friends and family (Greve and Salaff, 2003). They are unlikely to announce their ideas publicly at this stage as that would make it hard to change course.

Prior research examining the influence of social support on entrepreneurial intentions suggest having a spouse has been linked positively to entrepreneurial activity (Özcan, 2011) however, why this is the case is unclear. Family and friends are also cited in the literature as sources of support for starting a business. However, the type and degree of support may vary. For instance, studies have shown that when families have entrepreneurial experience, they were encouraging of their older family member entering self-employment (Davidsson and Honig, 2003; Kibler et al., 2012). In contrast, if the families had no prior experience of entrepreneurship they were opposing and less supportive. There

are several studies which argue that family support is critical to starting a new venture (Dyer, 1994; Dyer and Handler, 1994; Davidsson and Honig, 2003). For instance, Greve and Salaff (2003) found that family support was significant for women, who utilize family as a referent point to a much larger extent than men. The evidence is similar for support from friends. For instance, Wainwright et al. (2011) found that older people whose friends had a professional or corporate career regarded being self-employed at an older age as abnormal and inconsistent with their expectations about older professionals. In contrast, where an older person had a friendship group that included entrepreneurs, they perceived more support. The importance of social support is further evidenced by Davidsson and Honig (2003) who observe that social networks are more salient than contact with government agencies in achieving business start-up.

Perception of community support also influence the uptake of entrepreneurship among older people. For instance, Kautonen et al. (2011) found that when an older person perceived that the community was open-minded to older people being self-employed, this positively influenced their entrepreneurial intentions. This finding suggests that if the community accepts that older people can be successful as entrepreneurs this increases older individual's expectation of a positive outcome from entrepreneurship. Therefore, support may act as an antecedent to outcome expectations. The importance of support is also noted in the retirement literature which concludes that social support assists older workers to continue working (Flynn, 2010). Likewise, the absence of support from referent individuals may be a barrier to the development of interest in self-employment (Ainsworth and Hardy, 2008).

In SCCT it is argued that support is a dimension of learning experiences which influence the development of self-efficacy and outcome expectations (Lent et al., 1994). It is therefore expected, consistent with SCCT and the entrepreneurship intention literature, that partners, family and friends will play highly influential roles, particularly in providing support at the interest development stage (Lent et al., 1994; Kautonen et al., 2009, 2010, 2011; Kibler et al., 2012). The role of work colleagues as referent individuals in career choice or self-employment has not been widely researched. Casey (2009) points out that in Japan many older workers transition to self-employment with the support and approval of their organizations. We therefore also include colleague support in our model's conceptualization of referent support.

As discussed earlier, in SCCT personal and background factors are theorized to indirectly influence the development of interest. Therefore, consistent with SCCT it is expected that relationship between support and interest in self-employment will be mediated by ESE and outcome expectations. Thus, it is predicted that:

H5a: Support will be positively related to entrepreneurial self-efficacy.

H5b: Support will be positively related to outcome expectations.

H5c: The relationship between support and interest in self-employment is mediated by ESE.

H5d: The relationship between support and interest in self-employment is mediated by OE.

MATERIALS AND METHODS

Sample and Procedure

We used an online survey design to collect information from participants. The participants for this study came from the membership of a professional association in Australia, the first author's professional networks and referrals from participants (snowballing). Individuals were invited to participate in the study via email and those interested clicked on a link provided in that email to the on-line survey. Respondents first read the participant information statement before providing informed consent (on-line) to proceed with participation. We received 186 responses. Further, 12 responses were omitted due to missing question responses. The final sample size comprised 174 people aged between 40 and 78 years of age. The mean age of participants was 52.5 years (SD = 7.16). There were slightly more females (n = 93, 53.4%) than males (n = 81, 46.6%), with males slightly older than females [M = 55.19, 51.41; $t(172) = 3.58$, $p < 0.001$, two-tailed]. A total of 139 (79.9%) participants were married or living as a couple, and 81.2% (138) reported that they had at least one person they were responsible for financially. Some 70 (40%) participants held a postgraduate degree, 27 (15.5%) had a graduate certificate/diploma, 32 (18.4%) had a bachelor's degree, 27 (15.5%) had an advanced diploma or diploma, 10 (5.7%) had a certificate, and 8 (4.6%) had completed secondary school. Most participants were in ongoing employment (n = 133, 76.4%), with the remainder in contingent (casual or contract) roles. Eighty-two (47.1%) participants identified themselves as executive/managers, 76 (43.7%) as professionals, 9 (5.2%) as clerical/administrative worker, 2 (1.1%) as technician/trade worker, 1 (0.6%) as a sales worker, 3 (1.7%) as community and personal workers, and 1 (0.6%) as a laborer. One hundred and eighteen (67.8%) participants were from the private sector, and 56 (32.2%) were from the public sector. The length of time with their current employer ranged from less than 1 year to 46 years, with a mean tenure of 10.5 years.

Ethics Statement

In line with the National Statement on Ethical Conduct in Human Research (Australian Government, 2007), ethical concerns were addressed prior to ethics approval, and throughout the research process. Respondents were provided with information about the study and were assured of confidentiality of identifiable information and were informed of their right to withdraw participation at any time without prejudice from any party. No incentives were offered.

Measures

Entrepreneurial Self-Efficacy

McGee et al. (2009, p. 966) adopted Bandura's (1977) characterization of self-efficacy describing it as "an individual's

belief in their personal capability to accomplish a job or a specific set of tasks." They further examined the underlying dimensionality of ESE drawing on a venture creation model which proposes four discrete phases of the venture creation which they labeled as searching, planning, marshaling and implementing. From their examination, five dimensions of ESE emerged which they categorized as follows: (1) searching, (2) planning, (3) marshaling, (4) implementing-people, and (5) implementing – finance. Their dimensions differ slightly from Chen et al.'s (1998) four-dimension venture creation model with dimensions; (4) people and (5) finance emerging as sub-dimensions of the original implementing dimension. McGee et al.'s (2009) measure is consequently the most comprehensive measure of ESE identified in the extant literature.

Given that the focus of this study is understanding the development of self-employment interest, which occurs before any venture creation has occurred, items related to post-start-up sub-factors were omitted from further analysis (i.e., implementing people and implementing finance).

Pre-venture activities consisting of ten items measuring search, planning and marshaling were then examined. Following a confirmatory factor analysis (refer below) these items were computed into a factor which we titled entrepreneurial self-efficacy- pre-venture (ESE-PV). The alpha reliability for the unidimensional scale was found to be 0.93.

Outcome Expectations

A review of the literature failed to identify specific outcome measures that deal with the outcome of being self-employed. A review of the broader career literature located several previously validated measures of outcome expectations scales that were career related. These scales would require tailoring to reflect the context of the present research suitably. The 17-item research outcome expectations scale (ROEQ) in Bieschke (2000) was used as the basis for the customization. Items deemed most fitting with the context of this present research were included in the final measure of outcome expectations. Outcome expectations comprise three forms, incorporating positive and negative physical – material (P), social (SOC), and self-evaluative (SE) outcomes (Bandura, 1986). Consistent with the career literature examining the perceived outcomes of postretirement work (Wöhrmann et al., 2013) two additional items were added related to a perceived positive experience (SE) and financial (P), resulting in a 9-item measure.

Preceding the scale items, it was emphasized that the questions were asking about becoming self-employed. Consistent with the notion that outcome expectations are concerned with imagined consequences of a particular course of action (Lent and Brown, 2006), a common stem was applied before each of the statements included in the scale. The stem read "In general I think starting a business/being self-employed would . . ." which was followed by the nine items for the measure to complete the stem sentence. An example item is ". . .enable me to associate with people I value." Bieschke (2000) reports a Cronbach alpha coefficient range of 0.91 to 0.92 for the original scale. In the present research, the alpha reliability for was scale was found to be 0.93.

Interest in Self-Employment

A 5-item scale was adopted to assess individual's interest in self-employment/business ownership. Following the guidelines of Lent and Brown (2006), participants were asked to what extent they agreed with statements related to self-employment/business ownership. An example is "If I had the opportunity and resources I'd like to start a business/be self-employed." Internal consistency was 0.96 and above the range usually achieved by reliability for interest scales (i.e., $\alpha = 0.75$ for engineering activities assessed by Lent and Brown, 2006).

Future Time Perspective

Future time perspective was measured using the 10-item FTP scale developed by Carstensen and Lang (Unpublished). Participants rated on a scale from 1 (strongly disagree) to 7 (strongly agree) their level of agreement with the statements. Those with higher scores are deemed to have a more expansive FTP. Three sample items are "Most of my life lies ahead of me," "I have a sense time is running out," and "I could do anything I want in the future." Lang and Carstensen (2002) report a Cronbach alpha of 0.92. In the current study, the alpha coefficient for the scale was found to be 0.92.

Support

Perceptions of support for becoming self-employed were measured using a four-item measure adapted from a scale developed by Liñán and Chen (2009) which measures perceived support in terms of whether referent individuals would approve of and support them becoming entrepreneurs. Participants responded on a seven-point Likert-type scale ranging from 'total disapproval' to 'total approval' and was measured for friends, close family, partner/wife/husband, and colleagues. The items read as "If you were to consider self-employment or starting your own business would [friends, close family, partner/wife/husband, and colleagues] approve/support that decision?" Liñán and Chen (2009) report an internal consistency of 0.77 for the scale. In the current study, the alpha coefficient for the scale was found to be 0.86.

Demographic and Control Variables

In addition to the primary variables in the study, two demographic and three additional control variables were measured and included in this research. Control variables were included as the variables have been demonstrated in late-career or entrepreneurship literature to be associated with late-career employment or entrepreneurship behavior – age, gender, education, occupation, length of time with current employer (Virick et al., 2015).

Analytic Approach

Confirmatory analysis (CFA) was performed to examine the fit of the dimensional models of ESE for the overall sample. McGee et al. (2009) tested three models in the original development of the scale: unidimensional, three-dimensional, and the original five-dimensional model. The indices of model fit considered were the comparative fit index (CFI), root mean square of approximation (RMSEA), the normed $\chi^2(\chi^2/df)$, the Akaike

information criterion (AIC), and the root mean squared residual (RMR). A model is considered to have an acceptable fit if the RMR is less than 0.08; the RMSEA close to 0.06 (Hu and Bentler, 1999) or a stringent upper limit of 0.08 (Steiger, 2007); the CFI index is at or above 0.96 (Hooper et al., 2008). Further, a normed χ^2 lower than 5 suggests a good fit. The AIC is a comparative measure of fit. Lower values indicate a better fit, consequently the model with the lowest AIC is the best fitting model. As we have only considered the three dimensions related to pre-venture activities (searching, panning, and marshaling), a unidimensional and a three-dimensional model were tested against the same fit indices as McGee et al. (2009).

Means, standard deviations, reliability estimates, and bivariate correlations were computed for all variables included in the study using SPSS 25. Next a confirmatory factor analysis, using AMOS 25, was undertaken on the ESE construct to ensure that the five distinct domains (search, plan, marshal, people, and finance) emerged. Following this, the bivariate correlations were examined to check whether relationships existed between the primary variables in the study at a bivariate level.

The PROCESS macro developed by Hayes (2013) was used to test the hypothesized relationships. Analysis was conducted based on the SCCT conceptual framework proposed by Lent et al. (1994). To test the hypothesized relationships, a sequential mediation model was adopted whereby the relationship between the independent variables – IVs (FTP and support) and the dependent variable – DV (interest in self-employment) is sequentially mediated, first by ESE-PV and then by OE. The confidence interval (CI) method for the indirect effect is a bias corrected with acceleration constant for confidence interval estimation (BCa) based on 2000 samples.

RESULTS

The data collected were screened for assumptions of normality, and missing data, before conducting any analysis.

Confirmatory Factor Analysis

Table 1 presents the intercorrelations among the three ESE dimensions (search, planning, and marshaling). All bivariate correlations are positive and statistically significant at $p < 0.01$.

However, although all the correlation coefficients are <1 indicating the absence of complete overlapping between the ESE dimensions, correlation coefficients for searching, planning and marshaling are relatively high from 0.07 to 0.08. A similar result was reported by McGee et al. (2009) and justified the test of the one-dimensional model. Two models where tested – Model 1: the three-dimensional model consisting of searching, planning, and marshaling dimensions; and Model 2 – a unidimensional model resulting combining searching, planning and marshaling. **Table 2** shows the results for the CFA of the two models. Model 2 appears to show the best fit. Additionally, Model 2 reported the lowest AIC, indicating it may be the best factorial solution. Furthermore, we tested whether the unidimensional model (Model 2) was significantly better than the three dimensional model (Model 1). Evidence of the prevalence of Model 2 was found (M2 $\chi^2 = 48.772$, $df = 28$; M1 $\chi^2 = 69.980$, $df = 31$; $\Delta\chi^2 = 21.208$, $df = 3$, $p < 0.001$. Thus, we can conclude that a unidimensional model is the best factorial solution.

TABLE 1 | Intercorrelations among the three pre-venture ESE dimensions.

ESE dimension	Planning	Marshaling
Searching	0.784	0.743
Planning	–	0.822

TABLE 2 | Fit indices for the factorial solutions of the ESE scale.

Groups	CFI	RMSEA	$\chi^{2/df}$ Ratio	RMR	AIC
Model 1: Three-dimensional	0.965	0.091	2.257	0.092	117.908
Model 2: Unidimensional	0.981	0.070	1.742	0.073	102.772

CFI, comparative fic index; RMSEA, root mean square error of approximation; RMR, root mean square residual; AIC, Akaike information criterion.

Descriptive Statistics and Correlations

The descriptive statistics (means and standard deviation), scale reliability (Cronbach alpha coefficients) and bivariate correlations among the measured variables are reported in **Table 3**.

The FTP was found to be positively and significantly associated with support ($r = 0.35$, $p < 0.01$), ESE-PV ($r = 0.34$, $p < 0.01$) and interest ($r = 0.24$, $p < 0.01$). Support was found to be positively and significantly associated with ESE-PV ($r = 0.33$, $p < 0.01$), OE ($r = 0.26$, $p < 0.01$) and interest ($r = 0.36$, $p < 0.01$). ESE-PV was found to be positively and significantly associated with OE ($r = 0.17$, $p < 0.05$) and interest ($r = 0.37$, $p < 0.01$).

In addition, age was significantly negatively correlated with FTP ($r = -0.30$, $p < 0.01$) and significantly positively correlated with interest ($r = 0.15$, $p < 0.05$). Gender was significantly negatively correlated with ESE-PV and interest ($r = -0.30$, $p < 0.01$, $r = -0.16$, $p < 0.05$, respectively). Education was significantly positively correlated with ESE-PV ($r = 0.34$, $p < 0.01$). Occupation was significantly negatively correlated with ESE-PV ($r = -0.15$, $p < 0.05$).

Mediation Analysis

The hypotheses were analyzed using the bootstrapping method and PROCESS macro developed by Hayes (2013). To test the hypothesized relationships, a sequential mediation model was adopted whereby the relationship between the IVs (FTP and support) and DV (interest in self-employment) is sequentially mediated, first by ESE-PV and then OE. In addition, while PROCESS does not implicitly permit two IV's the mediation analysis was conducted in two stages to include both FTP and support as IVs using the following method recommended by Hayes (2013). In the first stage FTP was entered as the IV and support was entered as a covariate. In the second stage support was entered as an IV and FTP was entered as a covariate. The confidence interval (CI) method for the indirect effect is a bias corrected with acceleration constant for confidence interval estimation (BCa) based on 2000 samples.

TABLE 3 | Means and standard deviation, scale reliability and bivariate correlations among variables.

	Variables	Mean	*SD*	1	2	3	4	5	6	7	8	9	10
(1)	Age	53.18	7.17	–									
(2)	Gender[a]	1.53	0.50	−0.26**	–								
(3)	Education[b]	2.45	1.51	−0.08	−0.19*	–							
(4)	Occupation[c]	1.74	1.09	0.01	0.12	−0.33**	–						
(5)	Time in present job	10.48	10.18	0.24**	0.06	0.02	−0.07	–					
(6)	FTP	4.87	1.19	−0.30**	0.08	0.14	−0.06	−0.06	**0.92**				
(7)	Support	5.17	1.21	0.00	−0.05	0.10	−0.00	0.05	0.35**	**0.86**			
(8)	ESE-PV	4.84	1.17	0.16	−0.30**	0.34**	−0.13	−0.01	0.34**	0.33**	**0.93**		
(9)	Outcome expectations	4.61	1.28	0.11	−0.08	0.06	0.17*	−0.08	0.12	0.26**	0.17*	**0.93**	
(10)	Self-employment interest	4.68	1.69	0.15*	−0.16*	0.06	0.10	−0.13	0.24**	0.36**	0.37**	0.65**	**0.96**

***Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed). Cronbach's alpha for the predictor scales on the diagonal.*
[a]Male = 1, Female = 2.
[b]1 = Secondary School, 2 = Certificate, 3 = Advanced Diploma, 4 = bachelor's degree, 5 = Graduate Diploma/Graduate Certificate, and 6 = Post Graduate Degree.
[c]1 = Executive/Manager, 2 = Professional, 3 = Clerical/Administrative worker, 4 = Technicians/trade worker, 5 = sales worker, 6 = Machinery operator/driver, 7 = Community and personal services worker, and 8 = Laborer.

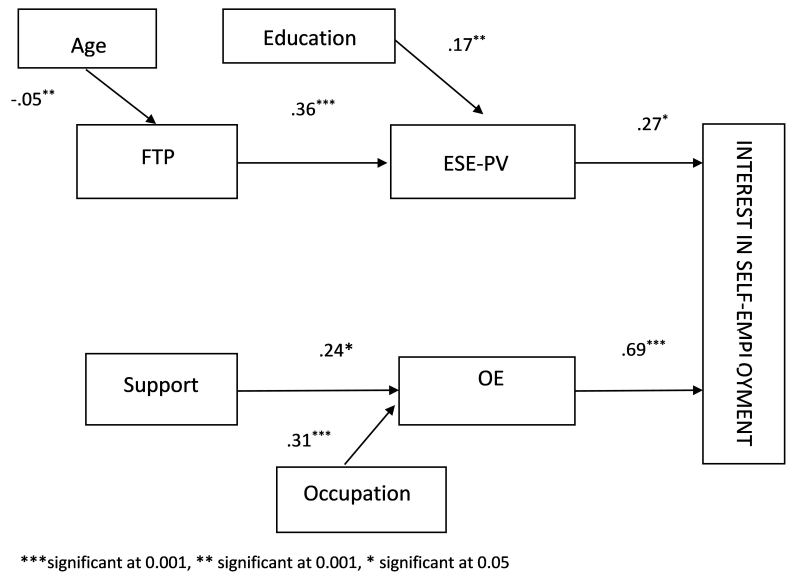

FIGURE 2 | Results of the model of support and FTP as predictors of interest in self-employment mediated by ESE-PV and OE.

Age, length of time with current employer, education, gender and occupation were controlled, as they were identified in the literature as being related to the primary variables. Education was significantly related to ESE-PV ($b = 0.17$, $p < 0.01$), indicating that higher levels of education attainment were positively related to ESE-PV. As expected, age was a significant negative predictor of FTP ($b = -0.05$, $p < 0.01$). Occupation was a positive predictor of OE ($b = 0.32$, $p < 0.001$), such that those in lower-level occupations anticipated greater positive OE from self-employment.

The results are summarized in **Figure 2**. ESE-PV and OE were significant predictors of interest ($b = 0.27$, $p < 0.05$, $b = 0.69$, $p < 0.001$, respectively), supporting hypotheses 1 and 2. Contrary to hypothesis 3, ESE-PV was not significantly related to OE. FTP was significantly related to ESE-PV ($b = 0.36$, $p < 0.001$), supporting hypothesis 4a. Hypothesis 4b indicated that FTP would be related to OE and further, hypothesis 4d predicted OE would mediate the relationship between FTP and interest in self-employment but this was not supported by the results. The relationship between FTP and interest was mediated by ESE-PV [$b = 0.10$, 95%, CI (0.01, 0.23)], supporting hypothesis 4c. Contrary to hypotheses 5a and 5c, support was not significantly related to ESE-PV. Support was significantly related to OE ($b = 0.24$, $p < 0.05$), supporting hypothesis 5b. The relationship between support and interest was mediated by OE [$b = 0.17$, 95%, CI (0.04, 0.32)], supporting hypothesis 5d.

DISCUSSION

This study contributes to the career and entrepreneurship research in several ways. The findings contribute to our

understanding of late career interest in an often overlooked group (older workers), adding to the growing body of recent SCCT research among differing social classes (Flores et al., 2017), race and ethnicities (Ali and Menke, 2014; Dickinson et al., 2017), sexual identities (Tatum et al., 2017) and older workers (Wöhrmann et al., 2013; Garcia et al., 2014). Additionally, the findings support the applicability of SCCT to late career, revealing that older individuals develop late career interests in what they believe they can do and where they anticipated a favorable outcome (Bandura, 1986). Older workers are often contextualized as a homogenous group, with a focus on chronological age. However, the identification of age-specific background and personal factors which influence the development of self-efficacy and outcome expectations for late career suggest that career interest development in later life is complex and multi-faceted. As such, late-career decisions are dynamic and idiosyncratic adding support to the emerging body of career research suggesting that older workers are heterogeneous (Sterns and Miklos, 1995; Bal and Jansen, 2015) and will require individual late career working arrangements that can meet each individual's motivations and needs.

The findings extend current theory on the complex role of age in the development of self-employment interest in several ways. Overall, the findings confirm the utility of SCCT in the self-employment context and support the model that states FTP and social support predict ESE-PV and OE, which influence the development of self-employment interest for older workers. The model of interest in self-employment for older workers synthesize two historically disparate streams of research investigating career interest and entrepreneurial intentions, in the context of older workers. This novel approach to the examination of self-employment in a career development context provides important insights into the pre-venture, interest development stage and thereby the identification of age-specific barriers and supports to the development of ESE and OE in older individuals. Earlier work on the role of ESE in the entrepreneurial context has focused on it positive influence on entrepreneurial intentions and action. Less research has been devoted to its antecedents.

The inclusion of age-related psychosocial (FTP) and sociocultural (support) factors in the model shed light on the intersection between age (older age), the contextual environment, and development of self-employment interest. The mediating role of ESE-PV and OE adds to our understanding of how interest in self-employment is developed. Prior research on entrepreneurship has tended to overlook the role of OE in the development of entrepreneurial intentions (Chen et al., 1998; Zhao et al., 2005). In the career literature, it is generally argued that OE is principally influenced by self-efficacy (Lent et al., 1994). However, the current findings suggest that OE may be influenced by different personal and background factors than ESE. The dual role of ESE-PV and OE reinforces and expands Bandura's (1986) arguments that individuals are more likely to develop interest in self-employment when they feel efficacious and expect positive outcomes. The results also provide support for the view that in the case of costly decisions both self-efficacy and outcome expectations influence interest (Lent et al., 1994). For instance, an individual with high self-efficacy for entrepreneurship may not develop an enduring interest if they anticipated a negative outcome (e.g., non-support of referent others, conflict, and financial loss).

Lastly, the identification of FTP as an antecedent to ESE-PV makes an important contribution to the literature examining gray entrepreneurship. Consistent with prior studies examining the age and entrepreneurship (Lévesque and Minniti, 2006) the present study found that age was a significant negative predictor of interest in self-employment. This present finding draws attention to the complex interaction between age and entrepreneurship and reinforces the argument that older workers are a heterogeneous group (Bal and Jansen, 2015). Lastly, the role of social support as an antecedent to OE reinforces the argument that gray entrepreneurship needs external support and approval to be encouraged.

Practical Contributions

The findings are relevant to practitioners involved in late-career counseling or seeking to nurture interest in self-employment in later life. The results reveal, that despite accumulated knowledge and life experience, support from referent individuals is a salient factor in the development of ESE-PV and OE, for older individuals. Consequently, it is recommended that age-tailored interventions are developed where the aim is to encourage self-employment among older workers. For example, including referent individuals, such as partners and family, in initiatives encouraging older entrepreneurship would be useful. This might include extending entrepreneurial education programs to partners and family. Consequently, interventions increasing the awareness of the positive benefits of entrepreneurship when older may increase individual outcome expectations by garnering support from referent individuals. Utilizing older entrepreneurs as peer mentors can also raise awareness of the positive outcomes from self-employment and increase self-efficacy through role-modeling.

Older individuals with an expanded FTP may be more open to extending their working lives through self-employment as they are more willing to invest in relationships, activities, and goals that have a longer-term return on investment, behaviors which are consistent with early venture creation and development of ESE. Therefore, it would be beneficial to target individuals with an expanded FTP for business start-up programs.

The findings are also relevant to employers. Older workers with an interest in self-employment offer both a risk and an opportunity for organizations. Older workers with strong entrepreneurial interests may retire pre-maturely to pursue their self-employment interests. This may lead to a loss of skills and expertise. It may also lead to a loss of business revenue and missed opportunity if innovative ideas are adopted outside of the business. Retained entrepreneurial employees can be utilized as change agents and innovators who can enhance the organization's capability (Krueger and Brazeal, 1994). Therefore, organizations seeking to strengthen their entrepreneurial orientation should not overlook older workers. By identifying older workers with a strong ESE-PV, organizations will be able to tap into their entrepreneurial potential and develop

opportunities for them to satisfy their entrepreneurial interests in the organization. Likewise, where organizations are seeking to enhance older workers entrepreneurial potential they could develop human resource management initiatives to address age norms related to innovation and entrepreneurial behavior in the organization and provide support networks for older workers to be entrepreneurial.

LIMITATIONS AND FUTURE RESEARCH

There are several limitations that should be noted considering the present findings. Current generalisability is limited to professional workers. As such, future research could examine the formation of self-employment intentions among non-professional workers such as tradespeople, sales workers and laborers, for example. It also must be acknowledged that not all people will act upon their interest in self-employment. A longitudinal study which examines the transition from interest to goals and finally self-employment (action) would be of interest. Future studies could examine in detail the transition from organizational careers to self-employment and the proximal contextual factors that influence this transition over time.

The originality of using the SCCT framework to study gray entrepreneurial behavior suggests replication of the results is required. Secondly, while this study was precisely designed to assess key dimensions and to control for important factors, further research should examine whether other personal or contextual age-related factors might affect the variables and relationships included in the model.

Despite the practicality of a cross-sectional design for understanding the self-employment interest of older workers, new longitudinal analysis is required to establish stronger causal interpretations are required. For instance, because background contextual factors and ESE and OE were measured at the same this, inferences about temporal ordering of these constructs cannot be assumed. However, the study was designed based on previous theoretical models and existing empirical evidence, suggesting that background contextual factors lead to career self-efficacy and outcome expectations (Lent et al., 1994). Future research could take a longitudinal approach including the examination of the moderating factors theorized by SCCT to influence the relationship between interest and choice goals (Lent et al., 1994).

In conclusion, workforce aging and the need to retain older workers in economic activity beyond what has been normal retirement age, highlight the importance of understanding what factors influence late career choice. Self-employment has become an important career choice for older workers evidenced by the increased uptake of entrepreneurship by people over 45 years of age. This research has contributed to our understanding of the social cognitive antecedents of self-employment interest among older workers. A major practical implication is guidance for organizations and practitioners who are seeking to encourage entrepreneurial interest among older workers and how they can tailor their initiatives.

DATA AVAILABILITY

The datasets generated for this study are available on request to the corresponding author.

AUTHOR CONTRIBUTIONS

VC completed this study as part of a Doctor of Philosophy program. PB supervised the study and revised the writing. JE revised the writing. All authors contributed to manuscript revision, read and approved the submitted version.

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CORRECTION
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Corrigendum: Self-Employment in Later Life: How Future Time Perspective and Social Support Influence Self-Employment Interest

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A Corrigendum on

Self-Employment in Later Life: How Future Time Perspective and Social Support Influence Self-Employment Interest

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In the original article, there was an error. In the "**Results**" section, under "**Mediation Analysis**:" **paragraph 3**, there was a typographical error referencing the relevant hypotheses. A correction has been made so that 5d reads as 5c; and 5c reads as 5d.

The results are summarized in Figure 2. ESE-PV and OE were significant predictors of interest ($b = 0.27$, $p < 0.05$, $b = 0.69$, $p < 0.001$, respectively), supporting hypotheses 1 and 2. Contrary to hypothesis 3, ESE-PV was not significantly related to OE. FTP was significantly related to ESE-PV ($b = 0.36$, $p < 0.001$), supporting hypothesis 4a. Hypothesis 4b indicated that FTP would be related to OE and further, hypothesis 4d predicted OE would mediate the relationship between FTP and interest in self-employment but this was not supported by the results. The relationship between FTP and interest was mediated by ESE-PV [$b = 0.10$, 95%, CI (0.01, 0.23)], supporting hypothesis 4c. Contrary to hypotheses 5a and 5c, support was not significantly related to ESE-PV. Support was significantly related to OE ($b = 0.24$, $p < 0.05$), supporting hypothesis 5b. The relationship between support and interest was mediated by OE [$b = 0.17$, 95%, CI (0.04, 0.32)], supporting hypothesis 5d.

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

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Resource Crafting: Is It Really 'Resource' Crafting—Or Just Crafting?

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This study aims to provide an integrated perspective on job crafting and its antecedents through the exploration of the joint effects of individual-level and team-level job crafting on employee work engagement. Drawing on conservation of resources (COR) theory, we propose that engaging in job crafting behaviors is promoted by the presence of job-related resources. In turn, job crafting is expected to result in higher levels of work engagement. We expect this reasoning to hold for the individual as well as the team/collective levels. The hypotheses were tested using data from 287 medical professionals from 21 hospital units of a Chinese public hospital. Findings from two-level Bayesian structural equation modeling supported the idea that at the individual level, individual job crafting behaviors partially mediated the relationship from individual resources to individual work engagement. Further, collective crafting mediated the relationship from team resources to individual work engagement. In addition, a positive cross-level relation between collective crafting and individual crafting was found. We conclude that stimulated by resources, both job crafting processes at the individual-level and team-level can promote individual work engagement in Chinese employees.

Keywords: job-related resources, job crafting, individual and team, work engagement, COR theory

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INTRODUCTION

Job crafting is a means by which employees can cultivate positive meaning in their job (Wrzesniewski et al., 2013). A positive outcome of this is work engagement defined as "a positive psychological state characterized by energy investment and psychological presence" (Sonnentag, 2017, p. 14). The antecedents of job crafting have largely been discussed by scholars in terms of individual level factors such as perceived job-related characteristics, such as job resources, as well as individual workers' needs, goals, and behaviors (Bakker et al., 2012b; Tims et al., 2012; Van den Heuvel et al., 2015). However, these antecedents usually occur in an *organizational* context, suggesting that social and team-level factors may also be relevant in shaping the degree to which individuals engage in job crafting behaviors and the outcomes thereof (e.g., Leana et al., 2009; Hu et al., 2016). That is, people are not always motivated by personal concerns; instead, individual motivation is also reflected in, informed by, and adapted to the needs, goals, or expectations of other team members (Ellemers et al., 2004; Bizzi, 2016).

As we will argue a more comprehensive multilevel view of how resources spur crafting and relate to engagement is needed. In explanation of how and why job resources influence job crafting we draw on conservation of resources (COR) theory (Hobfoll, 1989, 2011) which assumes that much of human behavior is organized around the acquisition and preservation of valued resources – resources are required to directly or indirectly fuel psychological energy needed for surviving and thriving. Research has revealed that job-related resources (i.e., the features of the job that produce benefits that satisfy one's specific needs, such as the opportunities for learning and development, conditional resources such as good remuneration policies, and personal resources such as high professional efficacy) are key factors in maintaining psychological energy and motivation at work (Xanthopoulou et al., 2007; Taris et al., 2010; Hu and Schaufeli, 2011; Hu et al., 2017c) and can stimulate job crafting (Tims et al., 2014; Heuvel et al., 2015). Beyond these individual processes, we propose team-based CORs view in explanation of processes at the team level that link job resources to job crafting and in turn engagement. Building on COR theory (Hobfoll, 1989), we seek to better explain and understand how job-related resources lead employees toward more optimal functioning in individual and team contexts.

COR Theory and Job Crafting

Conservation of resources (COR) theory assumes that resources have an intrinsic motivational element that facilitates the attainment of goals and the satisfaction of needs (Van den Broeck et al., 2008). Individuals strive to invest, foster, and protect those centrally valued resources with the expectation of receiving positive outcomes in return (Hobfoll, 1989, 2011). These resources refer to a broad psychological concept that is not restricted to job-related factors, and also includes universal psychological resources such as meaningfulness and need satisfaction (Deci and Ryan, 2000; Wrzesniewski and Dutton, 2001). Those universal psychological resources play an important role in individuals' thriving, while thwarting of those resources have an energy-depleting effect (Deci and Ryan, 2000; Hobfoll, 2011). COR further stresses that it is not necessarily the workers with abundant resources who thrive but rather the workers who are best able to allocate those resources to maximize their resources reservoirs (Halbesleben et al., 2014). This means that individuals with a pool of job-related resources are better able to invest and gain additional resources. Note that these additional resources are not limited to job-related resources, but may also include universal psychological energy resources.

Job crafting is the self-initiated behavior that workers use to proactively shape work practices so that these align with their own personal preferences, values and skills (Wrzesniewski and Dutton, 2001; Slemp and Vella-Brodrick, 2013). Job crafting is important for individuals in the process of maintaining and supplementing psychological energy resources, because job crafting facilitates the experience of meaningfulness and work identity (Wrzesniewski et al., 2013). Viewing one's own job as more purposeful and meaningful can produce significantly more psychological energy. People holding many resources are motivated to put more effort into their crafting actions to shape their work into a meaningful job (Wrzesniewski and Dutton, 2001; Malo et al., 2016), e.g., by incorporating new tasks, reducing hindering tasks, or deepening their social bonds at work (Tims et al., 2012; Niessen et al., 2016). Research has revealed that meaningfulness is an energy resource that promotes work engagement, even when job resources are controlled for (May et al., 2004; Byrne et al., 2016). By capturing positive work meaning, job crafting can improve momentary psychological energy resources and boost work motivation. In turn, psychological energy has the potential to boost work engagement. Based on this idea, it is possible to consider job crafting from the within the context of job-related resources and work engagement.

Job-Related Resources and Motivations at Individual-Level and Team-Level

Job-related resources is a broad umbrella concept that comprises various kinds of objects and conditions referring to one's work. Two forms of job-related resources are distinguished at the individual level and at the team level, depending on whether they are based on collective attributes (or societal identities) or on individual characteristics. *Individual-level resources* can be conceptualized as "energy reservoirs" at work that individuals can tap into to regulate their demands (Hobfoll, 1989, 2002), such as professional efficacy (a personal resource; Xanthopoulou et al., 2007), opportunities for development (i.e., an energy resource; Hu et al., 2016), and remuneration (i.e., a conditional resource; Hu and Schaufeli, 2011). Such resources are directly related to person-specific requirements, thereby meeting the needs of and taking on meaning and value for individual workers. Individual resources, to some degree, reflect individual identities in the workplace, and richer individual resources represent better individual identities. People will strive to preserve a given level of individual resources in order to protect and maintain their identities. These individual resources have a motivational element to them that promotes individuals to engage in self-regulatory behaviors that help them to protect or acquire psychological energy.

Team identity requires that team membership is assimilated into the self-concept of the individual team members, i.e., they should consider themselves to be part of the collective (Ellemers et al., 2004). The identification with a team originates from the reciprocal relationships team members maintain, involving shared norms and mutually beneficial interactions (Thomson and Perry, 2006). As such, team members partly define themselves in terms of a social referent (i.e., the other team members) and they tend to develop similar perceptions of how their team is cooperative or works effectively. If so, this creates a situation in which team-based (or collective) needs, expectations, and goals are regarded as *relative* intrinsic sources of motivation (Ellemers et al., 2004). *Team-level resources* are endorsed with shared values, serve the interests of a team, coordinate team members' actions toward team goals and, hence, they are regarded as motivational sources (Edwards and Cable, 2009). For example, team effectiveness during a field study program among nurses conducted over an 8-week period led team members to adapt

to changing environments (Gibson, 1999). Furthermore, team cooperation helps team members to recognize physiological and emotional cues that can create challenges in meeting work goals; and team learning increases the accuracy and frequency of communication among team members, providing them with access to a broader range of alternative perspectives (Johnson and Johnson, 1999; Carpenter et al., 2004). Note that when situational features encourage people to regard their self-identities in collective terms, they are not necessarily driven by personal considerations only. Alternatively, if team identity is internalized as part of a person's sense of self, they establish goals for the team and respond to team goal achievement in essentially the same manner as they respond to achieving their own goals (Shaw, 1981). The motivation to attain a collective outcome is regarded as originating from individual concerns and motives (Ilgen and Sheppard, 2001; Ellemers et al., 2004).

Individual Crafting, Collective Crafting and Individual Work Engagement

Individual crafting may be defined as the self-initiated changes employees make to their job in order to optimize their functioning in terms of well-being, attitudes or behavior (Vanbelle et al., 2013). Individual crafting may encourage self-regulation strategies that maximize individual-level outcomes. If employee motives, strengths, and passions tap into valued personal needs and abilities, they are likely to engage voluntarily in activities they consider important and of which they are capable. A review on the correlates of work engagement revealed that individual crafting is a crucial factor that helps staying engaged at work (Bakker et al., 2012a). Petrou et al. (2012) found that individual crafting by seeking challenges and reducing demands was positively associated with day-level work engagement. Similarly, Tims et al. (2013) found that individual crafting had a positive impact on employee work engagement through introducing changes in their job demands and job resources. Apparently, individual crafting is a means to customize individual's valued psychological energy resources in ways that optimize situational features as well as worker well-being and functioning.

People place the greatest importance regarding their self-definitions on aspects of their identity that best satisfy their particular motives (Easterbrook and Vignoles, 2012). This *social identity* can help define the circumstances under which people are likely to consider themselves as either independent individuals or as part of a collective. When circumstances foster a conception of the self in individual terms, individual considerations are key drivers of work motivation (Ellemers et al., 2004). Conversely, when individuals conceive of themselves in collective terms, this self-conception energizes people to exert effort on behalf of the team, facilitating them to direct their effort toward attaining collective goals.

Collective crafting (also called collaborative or shared crafting) refers to the activities carried out by team members with a collective cognition to jointly change the nature of work practices and processes (Leana et al., 2009; McClelland et al., 2014; Makikangas et al., 2016). Collective crafting is executed in a reciprocal fashion. Workers tend to engage in collective crafting, depending on the extent to which these seem to be individually rewarding. Collective crafting involves forging commonalities from individual differences, with a focus on the individual's meaning of work aligning with team identity. The congruent expectations of self-interests and collective interests lead employees to develop a collective self-concept, energizing them to exert effort on behalf of their team in order to achieve collective goals and outcomes. These mutually beneficial relationships, the development of trust and modes of reciprocity can satisfy individual psychological needs and energies as well. The acquisition of psychological energy in collective crafting is also likely to encourage employees into a course of action and continue or expand their work engagement. For example, the study of Mäkikangas et al. (2017) showed that self-efficacy for teamwork was positively associated with team job crafting behavior at the individual level, and team features (team cohesion and climate) were positively related to daily team job crafting at both the within- and between-team levels. Tims et al. (2013) found team job crafting related positively to individual performance via individual job crafting and individual work engagement.

In sum, individual resources and team resources have motivational elements that facilitate the attainment of goals and the satisfaction of needs. As such, individual resources and team resources act on psychological energy to drive employee behaviors. Individual resources encourage an individual-level conception, and this will lead people to engage in individual crafting. Similarly, team resources encourage a conception of the self in collective terms, and this will stimulate people to exert collaborative efforts into collective crafting. Both individual crafting and collective crafting are central in allowing people to choose and most fully develop preferred ways of work to optimize their psychological energy. This will bring about more purposeful and meaningful work, which will in turn lead to higher work engagement. As a result, individual work engagement will not only be affected by individual crafting, but also by collective crafting. Based on these notions, two hypotheses are proposed:

> *Hypothesis 1.* Individual resources are positively related to individual work engagement through individual crafting.
>
> *Hypothesis 2.* Team resources are positively related to individual work engagement through collective crafting.

MATERIALS AND METHODS

Sample and Procedure

The study was conducted in March 2016 as part of a collaborative research project that primarily focused on employee well-being in a public hospital of a Chinese university. The hospital included 21 medical units and 408 registered medical employees. Prior to the study, permission to conduct this study was obtained from the hospital head and the survey content was discussed with a hospital administrative who was responsible for this project. 350 paper-and-pencil questionnaires were distributed by the researchers among all medical professionals who were

present during a regular monthly staff meeting. Participants were encouraged to fill in the questionnaire and confidentiality was assured. In total, 287 valid questionnaires were returned (82% response rate), including 59 doctors, 161 nurses, and 67 medical technicians. Of the participants, 222 were female (77.4%) and 56 were male (19.5%), 9 participants did not provide gender information (3.1%); their mean age was 31.44 years (SD = 8.48), and their average tenure was 9.00 years (SD = 8.10).

Measures

Individual job crafting was measured using the Overarching Job Crafting Scale (O-JCS, Vanbelle et al., 2013; Hu et al., 2017a,b). The O-JCS focuses on the changes employees make in their jobs to optimize their functioning in terms of well-being, work-related attitudes and behavior (cf. Vanbelle et al., 2014). The four items are "I make changes in my job to feel better," "I change my job so it fits better with who I am," "I make changes in my job to perform better," and "I change my job so it fits better with what I think is important" (1 = "strongly disagree," 5 = "strongly agree"). Cronbach's alpha for this measure was 0.93. Tests showed that raters from the same team had a high level of within-group agreement [$r_{wg(j)}$ = 0.83], the intraclass correlation coefficients [ICC(1) = 0.14], and the reliability of the mean [ICC(2) = 0.68].

Collective crafting was measured using three items of the Collaborative Crafting scales (McClelland et al., 2014). These were "In the past 12 weeks (without supervisory/management input) to what extent has your team ..." (1) "changed the approach it uses to make the work more interesting"; (2) "adjusted the tasks it undertakes to make the job more fulfilling"; and (3) "changed the variety of work tasks it performs to make the work more meaningful?" Since collective crafting practices are embedded within social networks, trust promotes efficient cooperation among interdependent actors (McAllister, 1995). We therefore added an item to capture relational crafting: (4) "changed interpersonal relationships at work to increase mutual trust." All items employed a 5-point scale ranging from 1 ("not at all") to 5 ("a great deal"). Cronbach's alpha for this measure was 0.96. Because of the high level of agreement between raters within the same team [$r_{wg(j)}$ = 0.81, ICC(1) = 0.13, ICC(2) = 0.66], we averaged the responses of employees within each team to create an aggregated measure of team-level collective crafting.

Individual-level resources were assessed with subscales of the Questionnaire on the Experience and Evaluation of Work (QEEW; Van Veldhoven et al., 2002). Three individual-level resources were included. The first was *remuneration* (four items, e.g., "Can you live comfortably on your pay?" cf. Hu and Schaufeli, 2011), with a Cronbach's alpha of 0.94. Tests showed that raters from the same team had an adequate agreement regarding individual crafting [$r_{wg(j)}$ = 0.76, ICC(1) = 0.07, ICC(2) = 0.49]. The second was *opportunities for learning and development* (four items; e.g., "In my job I have the possibilities to develop my strong points"; see also Hu et al., 2011), Cronbach's alpha is 0.85, the $r_{wg(j)}$ is.76, the ICC(1) is 0.08 and the ICC(2) is 0.53. The third was *professional efficacy* (five items, e.g., "When difficult problems happen at work, I know how to solve them."). Cronbach's alpha is 0.92, the $r_{wg(j)}$ is 0.84, the ICC(1) is 0.14 and the ICC(2) is 0.68. All items were on a 5-point Likert-type scale ranging from 1 ("never") to 5 ("always").

Team-level resources were assessed by the two subscales of Liu's (2009) Shared Leadership Scale: (1) *team cooperation* (3 items, e.g., "My team members cooperate in each other's work," Cronbach's alpha was 0.94); (2) *team learning* (3 items, e.g., "My team improves professional capabilities by brainstorm and seminar," Cronbach's alpha is 0.93); and one self-constructed scale *team effectiveness* (3 items, namely "Does your hospital unit cooperate effectively?", "Are the working arrangements in your hospital unit properly fulfilled?", and "Does everyone in your hospital unit work to the best of his or her abilities?", Cronbach's alpha is 0.87). All items were answered on a 5-point Likert-type scale ranging from 1 ("never") to 5 ("always"). Tests revealed that the raters from each team had an adequate agreement regarding team-level job resources: team cooperation [$r_{wg(j)}$ = 0.73, ICC(1) = 0.20, ICC(2) = 0.76], team learning [$r_{wg(j)}$ = 0.74, ICC(1) = 0.09, ICC(2) = 0.56], and team effectiveness [$r_{wg(j)}$ = 0.83, ICC(1) = 0.21, ICC(2) = 0.78]. We, therefore, averaged the responses of the employees within each team to create aggregated measures of team-level team cooperation, team learning, and team effectiveness.

Work engagement was assessed with the 9-item short version of the Utrecht Work Engagement *Scale-9* (*UWES-9;* Schaufeli et al., 2006). The three components of engagement were measured with three items each: *vigor* (e.g., "At my work, I feel bursting with energy"), *dedication* (e.g., "My job inspires me"), and *absorption* (e.g., "I get carried away when I am working"), with a response scale 1 = "never" and 5 = "always" (cf. Li et al., 2013; Mao and Tan, 2013; Sun et al., 2015). Cronbach's alphas were 0.86, 0.90, and 0.91, respectively. Tests revealed that the raters from same team had an adequate agreement regarding vigor [$r_{wg(j)}$ = 0.75, ICC(1) = 0.17, ICC(2) = 0.82], dedication [$r_{wg(j)}$ = 0.74, ICC(1) = 0.19, ICC(2) = 0.70], absorption [$r_{wg(j)}$ = 0.75, ICC(1) = 0.20, ICC(2) = 0.76].

Data Analysis

The median percentage of the studied variables with a missing outcome was 1.4% (range from 0.3 to 2.1%). Missing data were handled with series mean values substitution. Level-1 variables were group-mean centered, while Level-2 variables were grand-mean centered. As the number of level-2 observations (i.e., the 21 hospital units) in this study is relatively small, a two-level Bayesian structural equation modeling (BSEM) as implemented in Mplus 7 (Muthén and Asparouhov, 2012; Muthén and Muthén, 2015) was used to test the hypothesized model. Compared to Maximum likelihood estimation, Bayesian estimation methods are more reliable in small samples and can handle complex models better (Muthén and Asparouhov, 2012; Hox et al., 2014).

Prior to estimating the hypothesized model, a single-level exploratory factor analysis was conducted to check whether the individual-level and team-level job resources could empirically be distinguished from each other. Exploratory factor analysis is primarily a data-driven approach, and few restrictions are placed on the patterns of relations between the common factors and the measured variables (Fabrigar et al., 1999).

In the absence of strong evidence-based expectations for the distinction between individual-level and team-level resources, we decided that this exploratory approach was more suitable than a confirmatory analysis.

Given the potential convergence problems of small sample sizes [i.e., the team-level sample size was 21, and the individual-level sample sizes ranged from 5 to 25 participants (the average number of participants was 13)], we simplified the measurement part of the BSEM model by aggregating the team-level scores across employees from the same team and by using three latent regression factor scores for the variables studied (i.e., individual-level resources, team-level resources and work engagement).

To estimate the hypothesized two-level model, four nested Bayesian SEM models were compared: (a) a null model (Model 0), where all structural paths among the five concepts were assumed to be zero. This model presents a baseline model against which the other models can be compared; (b) a within-level model (Model 1) with the effects of the explanatory variables at the individual-level and the structural paths at the team-level fixed at zero. Model 1 allowed us to assess the effects of individual resources on individual work engagement, which were further mediated by individual job crafting; (c) a full two-level model (Model 2) in which the structural paths at the team-level were released to estimate the effects of team-level resources on team-level crafting; and (d) a cross-level model (Model 3, see **Figure 1**) that states that team-level crafting influences individual work engagement. The model includes mediation in cross-level design, in which within-level variables are assessed at the between-level (Preacher et al., 2010). In addition, two cross-level covariances between team resources and individual resources, and between collective crafting and individual crafting were included (denoted with double-headed arrows in **Figure 1**). The first three steps (M0–M2) provide information as to whether multilevel analysis is justified. The final step (M3) tests the hypothesized relationships in this study.

Posterior predictive checking was used to detect model misspecifications. A low posterior predictive *p*-value (PP*p*) and a positive lower limit of the 95% confidence interval for the difference for the real and replicated data (95% PP*p* interval) indicate poor fit (Muthén and Asparouhov, 2012). There is no particular cutoff value available that signifies whether a particular PP*p* value indicates that a particular model should be considered as ill-fitting (Muthén and Asparouhov, 2012). However, Muthén and colleagues commonly use a PP*p*-value of.05 in their simulation studies (Asparouhov and Muthén, 2010; Muthén and Asparouhov, 2012). Further, when comparing two or more nested models, the model with the lowest DIC (Deviance Information Criterion) has the best fit (Gelman et al., 2004).

RESULTS

Preliminary Analyses

We conducted a single-level preliminary analysis. The means, the standard deviations, and the correlations for the study variables are displayed in **Table 1**. A principal components factor analysis with varimax rotation for the six resource variables was conducted. **Table 1** shows that team cooperation, team learning and team effectiveness loaded on a single team resources component (eigenvalue = 2.84), whereas learning and development opportunities, remuneration, and professional efficacy loaded on an individual resources component (eigenvalue = 1.77). Hence, the pattern of loadings of the indicators of the two kinds of resources showed that participants distinguished between individual-level and team-level resources.

The means, standard deviations, and correlations of within-individual estimates and between-team estimates of the focal variables are presented in **Table 2**. Bivariate within-individual variables correlations showed that individual crafting was positively related to the indicators of individual resources ($r \geq 0.33$, $p < 0.01$) and the three indicators of work engagement ($r \geq 0.54$, $p < 0.01$). Bivariate between-team variables correlations showed that collective crafting was positively related to the indicators of team resources within-individual estimates ($r \geq 0.80$, $p < 0.01$).

Model Estimation and Assessment of Fit

Models M0–M3 are nested, in that each subsequent model released additional regression paths or (co)variances as compared to the previous, simpler model. All paths at the individual level showed positive relations in the within-level model (M1). The full model with explanatory variables in the two-level model M2 showed adequate fit (PPp = 0.17; see **Table 3**). All regression paths in this model were significant, at both the within and the between levels.

Next, the cross-level hypothesized model (M3) was tested. The results revealed that this model fitted the data better than model 2 (PPp = 0.27, ΔDIC = −48.79). The final model is shown in **Figure 1**. At the *individual level*, individual resources were positively related to job crafting and work engagement (βs were 0.46 and 0.46, respectively, ps < 0.01), while job crafting related positively to individual work engagement ($\beta = 0.18$, $p < 0.01$). At the *team level*, collective crafting related positively to team resources and individual work engagement (βs were 0.82 and 0.87, respectively, p's < 0.01). In addition, a significant cross-level correlation between collective crafting and individual crafting was found ($r = 0.60$, $p = 0.02$), suggesting that individual and collective job crafting behaviors are closely interconnected (cf.

TABLE 1 | Factor loadings of the resource indicators (N = 287).

	Component 1	Component 2
Team resources:		
Team learning	0.93	0.14
Team effectiveness	0.93	0.09
Team cooperation	0.91	0.05
Individual resources:		
Remuneration	0.06	0.83
Professional efficacy	0.09	0.83
Development opportunities	0.01	0.78
Explained variance	43.16%	33.75%
Initial Eigenvalues	2.84	1.77

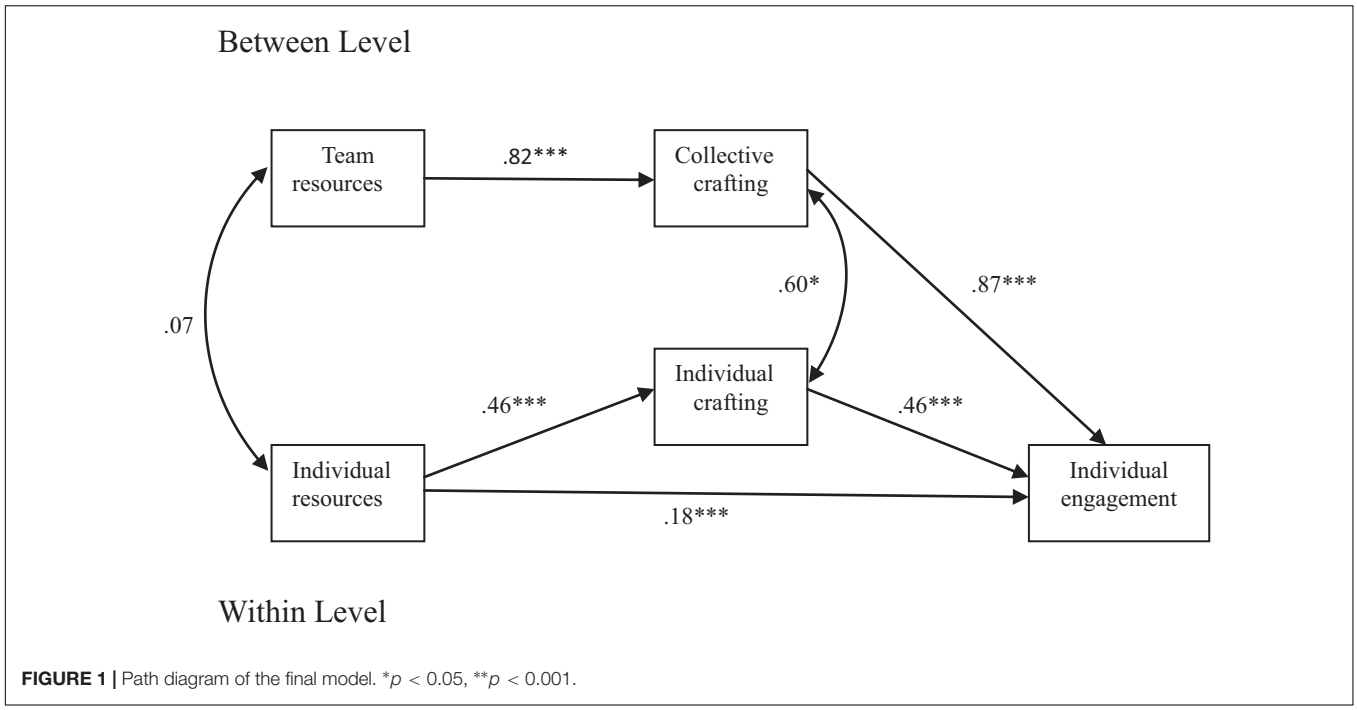

FIGURE 1 | Path diagram of the final model. *$p < 0.05$, **$p < 0.001$.

TABLE 2 | Description of sample and correlations (single-level analysis, $N = 287$).

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
(1) Remuneration	3.20	0.77	–									
(2) Development opportunities	3.19	0.85	0.47**	–								
(3) Professional efficacy	3.52	0.68	0.58**	0.47**	–							
(4) Individual crafting	3.20	0.71	0.33**	0.49**	0.37**	–						
(5) Vigor	2.85	0.99	0.32**	0.45**	0.20**	0.54**	–					
(6) Absorption	2.67	0.98	0.30**	0.46**	0.18**	0.57**	0.82**	–				
(7) Dedication	2.70	1.01	0.37**	0.49**	0.23**	0.56**	0.88**	0.86**	–			
(8) Collective Crafting	3.16	0.36	–	–	–	–	–	–	–	–		
(9) Team effectiveness	3.69	0.33	–	–	–	–	–	–	–	0.88**	–	
(10) Team cooperation	4.00	0.36	–	–	–	–	–	–	–	0.82**	0.76**	–
(11) Team learning	3.68	0.29	–	–	–	–	–	–	–	0.80**	0.85**	0.78**

*The aggregated correlations of team-level variables are presented in the right column. **$p < 0.01$.*

the double-headed arrow in **Figure 1**). However, the cross-level correlation between individual resources and team resources was non-significant ($r = 0.07$, $p = 0.31$). Further, the hypothesized mediation effects were confirmed by a significant indirect effect of individual resources via job crafting on work engagement at the individual level ($\beta = 0.20$, $p < 0.001$, Posterior $SD = 0.04$; Hypothesis 1 supported), and a significant indirect effect of team resources via collective crafting on work engagement at the team level ($\beta = 0.23$, $p < 0.001$, Posterior $SD = 0.07$; Hypothesis 2 supported).

DISCUSSION

To date, our understanding of how relatively stable job-related resources influence work engagement is relatively limited. Building on COR theory, this study intended to provide an integrated perspective on the relationships among job-related resources, job crafting and work engagement, assuming that relatively stable job-related resources motivate employees to move toward more optimal functioning by the acquisition of psychological energy resources through the process of job crafting. A cross-level study was conducted to investigate the effects of job crafting on both the individual-level and team-level levels in promoting employee work engagement. Our findings revealed that job crafting is as influential at the team level as it has been found to be at the individual level. Moreover, consistent with COR theory, our findings showed that resources are of paramount importance in the work context. Three sets of findings stand out as especially important: (1) individual resources could be distinguished from team resources; (2) individual-level resources promoted employee work engagement via individual

TABLE 3 | Regression coefficients and model fit information of the nested two-level BSEM models.

	Estimate (Posterior *SD*)			
	Model 0	**Model 1**	**Model 2**	**Model 3**
Level 1 (individual-level, *N* = 287)				
Individual resources →Job crafting	0.00	0.47*** (0.05)	0.47*** (0.05)	0.46*** (0.05)
Individual resources → Work engagement	0.00	0.20*** (0.06)	0.19*** (0.06)	0.18*** (0.07)
Individual crafting → Work engagement	0.00	0.20*** (0.06)	0.46*** (0.06)	0.46*** (0.06)
Level 2 (team-level, *N* = 21)				
Team resources → Collective crafting	0.00	0.00	0.86*** (0.06)	0.82*** (0.10)
Cross-level				
Collective crafting → Work engagement	0.00	0.00	0.00	0.87*** (0.14)
Team resources ↔ Individual resources	0.00	0.00	0.00	0.07 (0.31)
Collective crafting ↔ Individual crafting	0.00	0.00	0.00	0.60* (0.23)
PP*p*	0.00	0.00	0.17	0.27
95% PP *p* interval	[180.33, 231.37]	[16.43, 62.78]	[−11.74, 28.70]	[−16.65, 29.42]
DIC (pD)	2259.54 (47.60)	2085.15 (46.92)	2060.84 (48.93)	2012.05 (44.72)

*PPp, Posterior predictive p-value; DIC, deviance information criterion; pD, estimated number of parameters; *p < 0.05, ***p < 0.001.*

job crafting, while team-level resources promoted employee work engagement via collective crafting; and (3) individual job crafting was associated with collective job crafting: both promoted individual work engagement.

Theoretical Implications

Our study attempted to integrate the concepts of job crafting, job-related resources and work engagement into one overarching framework by recognizing the importance of psychological energy. It provides valuable insights into the relevance of individual-level job crafting and team-level job crafting processes. Five important theoretical implications deserve mentioning.

First, our study showed that individual-level resources could be distinguished from team–level resources, as suggested by two independent components in the factor analysis and their non-significant cross-level correlation. This is important, since both sets of items were measured by asking individual participants about their individual-level job crafting behaviors as well as job crafting behaviors at the level of their work team. The distinction between the two sets of items tells us that the participants clearly distinguished between both types of items. The reason why the participants did so might be that they differentiate between cues that make salient aspects of personal identity and cues that are relevant to their social identity. Individual-level resources represent the individual's identity that derives from a unique personal attribute (Turner, 1982), while team-level resources represent team identity that is based on internalized group membership (Ellemers et al., 1999). Individual-level resources are directly related to individual-specific requirements that meet the needs of individuals, but that are not necessary for other team members. Conversely, team-level resources are *relative* intrinsic sources of motivation, providing cues of reciprocity that help team members in establishing mutual cooperation and interpersonal trust. Both types of resources have distinct implications for the individual's behavior and for the functioning of team. Individual-level resources are focused on personal goals, and are likely to motivate self-interested action. Conversely, team-level resources are more focused on multiple, interdependent requirements, and are more likely produce the possibility for individuals to engage in co-action and collective action. For example, professional efficacy is an employee's belief in their individual capability to perform a specific task (Taris et al., 2010). However, team effectiveness is not simply the sum of the efficacy beliefs of its individual members, since team effectiveness involves complex patterns of interwoven and reciprocal social influences, more so than does individual efficacy (Kozlowski and Ilgen, 2006).

Second, job-related resources have energizing potential in making the goal more easily attainable and induce greater motivation for the pursuit of well-being (Hu et al., 2017c). Our study confirmed that individual resources are positively linked to individual work engagement. Given that job crafting aims to alter perceptions of the meaning of work and, hence, one's identity at work (Wrzesniewski and Dutton, 2001), we proposed a definition of individual crafting that fits well with the motivation for job crafting and that allows us to draw upon COR theory. Our study revealed that job crafting bridges job-related resources with employee work engagement. This finding agrees with Hobfoll's (1998) assumption that people will attach value to particular behaviors if they expect these behaviors to lead to a desired state. Job-related resources play a critical role in motivating workers to initiate and persist in particular work behaviors, because they largely depend on their ability to take advantage of their resources at hand. When people who are in an advantageous position (i.e., who have more job-related resources) identify available opportunities to gain more psychological energy, they are motivated to engage in those crafting activities that allow them get more enjoyment and meaning, enhance their work identities, promote their development, and thrive.

Third, individual identity and social identity are two integral aspects of people's identity, that is, people tend to attach value to the behaviors that seem to be rewarding for their desired identity

(Ellemers et al., 2004). This means that individual behavioral preferences can be adapted to be consistent with collective concerns or collaborative considerations (Ellemers et al., 2004). However, previous work on job crafting has primarily examined individual crafting behaviors and how these affect individual behavior and outcomes. Our study is based on the idea that not only individual-level, but also team-level job crafting may have a substantial effect on individual outcomes. That is, both individual and collective job crafting are assumed to be key strategies in the process of resource conservation, and both may promote individual work engagement. Our study showed that individual-level resources, partially mediated by individual crafting, create the conditions in which employees personally engage. This result is consistent with the view of Maslow (1954) that people need both self-expression and self-employment in work. Individual crafting tends to speak to employees' personal work identities, while work engagement relates to their own needs, abilities, and preferences. People will experience high levels of work engagement when they independently modify aspects of their jobs to improve the fit of the self and job. The mediational effect of individual crafting on the relation between individual resources and work engagement underlines the notion that people's autonomous functioning and the attainment of wellbeing are indeed connected, and that job crafting plays a pivotal role in this process.

Fourth, our study showed that team-level resources promoted employee work engagement via collective crafting. One explanation is that when team-level resources reach a sufficiently high level, people will internalize and integrate endorsed shared values, norms and rules, conceiving themselves in collective terms. This will lead them to engage in interdependent and goal-directed actions with other team members, thus affirming their identification with the team. If these actions relate to improving work circumstances and well-being (collective crafting), they could lead to higher levels of vigor and energy. Another explanation relates to the team dynamic that initiates and directs psychological energy. When motivation operates at the team level, interpersonal interactions contribute positively to the experienced meaning of work, by means of a process of emotional contagion (Bakker et al., 2006). This enables people to develop a joint interpretation of the work environment as promoting personal growth and development, which, in turn, may result in increased levels of individual work engagement.

Finally, our study revealed that individual crafting correlates positively to collective crafting at the team level. One explanation is that *collective crafting* is a collaborative action through which autonomous individuals see different aspects of a problem, and search for solutions that go beyond their own limited vision of what is possible. People can use each other's resources and share information to strengthen their own operations and programs, which will facilitate individual crafting. Another explanation draws on aspects of the Chinese collectivist culture (Hofstede, 1991) in which individuals' work identity is based on the social system. When people seek the satisfaction of having a job that is well-recognized by their social environment, they tend to be concerned about the impact of their own behavior on their fellow team members (Hui and Triandis, 1986). This creates situations in which individual success ultimately depends on the attainment of collective goals. This not only applies to the individual's action in terms of one's own interest, but also in terms of the interests of a collectivity. Thus, individual and joint effort are interdependent in affecting crafting behavior. In addition, a collectivist orientation might provide an alternative explanation for not only the positive relations between individual crafting and collective crafting, but also for the simultaneous effects of individual crafting and collective crafting on work engagement. Our study supports the idea that both individual and collective job crafting are central to optimal human functioning.

Practical Implications

First, our study showed that individual resources and individual crafting are linked with employees' work engagement. This suggests that in order to improve work engagement, organizations should provide their employees with enriched job descriptions, thus fostering enriched resourceful workplaces to create meaningful work. Our study further showed that informal job crafting appears to be more effective in promoting employee work engagement than having a formal resourceful context provided by the employer. Thus, managers may foster an empowering work environment by allowing employees to craft their jobs and to maximize the effectiveness of their efforts, thus improving employee wellbeing. Additionally, for employees who are concerned about their own wellbeing, job crafting actually increases their motivation and they are therefore more likely to get involved in activities that promote work engagement, thereby shaping their own work enthusiasm.

Second, our study showed that collective crafting is an effective means to improve employees' psychological well-being. Managers can provide positive reinforcement to those who act on collective crafting by encouraging employees to participate in staff appreciation programs, such as sharing expertise and knowledge specific to their roles, and by responding openly and supportively to employee suggestions, such as introducing new structures and systems where there are increased resources in which collective crafting promotes work engagement. Given that Chinese cultural factors influence individuals' behavior in a general way, another suggestion to promote work engagement could be to emphasize collectivist work values (prioritizing team goals over personal interests). This could result in a strong identification with the values and goals of the organization, and could thus help to cultivate dedicated and motivated employees.

Third, our study presents a conceptual framework that may stimulate both researchers and managers to recognize that psychological energy is a crucial element for individuals to flourish. We believe that this is important in itself, as it creates a working model for how different strands within the job crafting literature (e.g., focusing on the reduction of imbalances in job demands and resources, Tims et al., 2012; task crafting, relational crafting and cognitive crafting, Slemp and Vella-Brodrick, 2013; change task and relational boundaries and differentiate cognitive and behavioral changes, Weseler and Niessen, 2016; promote meaningfulness at work, Vanbelle et al., 2013; and alter the structure of tasks, Bizzi, 2016) can influence work engagement. Employees base their perception as to whether they have

meaningful work on many different sources of information. These sources of information allow researchers and managers to establish a research agenda that identifies how meaningfulness-related concerns may cause crafting behavior and which kinds of approach people may use.

Limitations and Suggestions for Future Research

One important limitation of the present study is its reliance on self-report measures, which might have caused common method bias. However, there are good reasons why we used self-assessments of job crafting and work engagement. Respondents have easier access to examples of their own crafting behaviors and wellbeing than others have, and can potentially detect differences between their own behaviors and well-being and that of others. Using self-assessments of job crafting and work engagement, respondents are likely to be more motivated to talk about themselves than others. It is also likely to produce more accurate results by avoiding the potential halo effect of others based their assessments upon overall impressions or observe behaviors designed to impress investigators (Ghitulescu, 2012). Moreover, self-report measures are a well-accepted and valid way of measuring of job crafting and work engagement in the literature (e.g., Schaufeli, 2012; Van Wingerden et al., 2017).

A related limitation is that all team-level variables were derived from individual employee-level data. However, the $r_{wg(j)}$ and the ICC-values demonstrated reasonable team-level agreement concerning the team variables and their cross-level effects. Still, in future research on the relationship between individual-level or team-level variables, it would be worthwhile to obtain objective measures, such as the monthly salary to measure an individual's remuneration, the degree to which team objectives were achieved to measure team effectiveness, and the number of seminars or courses taken to measure team learning. Of course, it would also be worthwhile to ask the team leader to evaluate team-level variables.

A second limitation is the generalizability of the findings of the present study. Our data were collected among a relatively specific sample of Chinese medical professionals. Although these professionals worked in a general hospital, it cannot be claimed that the sample is representative of China's health care. However, we deliberately developed measures of individual-level resources (professional efficacy, development opportunities and remuneration) and team-level resources (team cooperation, team learning, and team effectiveness) that are largely context-free, i.e., it seems plausible that these resources are salient across a wide range or occupations and cultures. If correct, this suggests that our findings may well be relevant (and may be generalized) across occupations and cultures. Furthermore, these context-generalized measures of individual-level resources and team-level resources tend to capture more of a stable resource characteristic than situation-specific resources (such as work shift and medical training). This strategy may facilitate the direct applicability of our measures to other contexts, such as teachers with high-education or blue-collar workers with low-education.

The findings presented here are basically in line with our expectations. However, it should be noted that in this study, the collaboration of team members refers to the interprofessional collaboration of doctors and nurses. This interprofessional collaboration is an essential component in any hospital. Doctors and nurses have different roles (and, possibly, different identities) in patient care. For example, doctors traditionally consider themselves as the dominant authority, while the main function of nursing is carrying out orders. This could mean that both individual crafting and collective crafting behaviors are linked with different features of the jobs of the participants. The intraprofessional collaboration in other job contexts (such as sale teams or teaching teams) may be different from the collaboration as it occurs between the hierarchically different jobs of doctors and nurses. In addition, different cultures foster different modes of cognitive processing (Kitayama, 2000). People in collectivist cultures (e.g., the Chinese participants in this study) are assumed to be relatively more sensitive to specific features of the interpersonal relationships they maintain and the social context in which they operate. These culture-dependent cognitive characteristics may influence people's judgments about their own job crafting behaviors. In order to address this issue, in this study we used a broadly defined job crafting measure (i.e., the OJCS) to tap job crafting-centered values and in this sense we believe that the cultural context in which this study was conducted will not have biased our findings severely.

The third limitation of this study is that it used a cross-sectional design to capture the relationships among job-related resources, job crafting and work engagement. Such studies have limitations, on one hand, job-related resources and work engagement may be reciprocally related. People who are engaged in their work may be motivated to stay engaged by job crafting to increase the levels of job-related resources (Bakker and Demerouti, 2007, 2017); On the other hand, people craft their job by actively reconstructing and customizing it, a variety of job-related resources can be reorganized, restructured or reframed in the job crafting process. With a cross-sectional design, we cannot conclude that specific types of resources causally "lead to" employee well-being via job crafting. However, job-related resources (e.g., learning and developmental opportunities, remuneration and professional efficacy) do on average not exceed moderate levels, and are on average stable across longer periods of time (Sonnentag, 2017). Work engagement is a constantly changing and dynamic, rather than a lasting, state that is closely linked to task performance (Sonnentag, 2017). The notion that job crafting and job resources are dynamically and reciprocally related does not specify how job crafting and the relatively stable job-related resources affect each other, and neither does it tell us how the job-related resources affect work engagement. Our cross-sectional study captures relative stable of job-related resources, as well as more volatile psychological energy that is linked with momentary experiences in the work environment (Tuckey et al., 2018). In this sense, although with limitations, a cross-sectional study helps in building an integrated perspective on the relationships among job-related resources, job crafting and work engagement. Note that the relative stability of the job-related resources in this study has merely been assumed; it

should be *demonstrated* in experimental or longitudinal designs, controlling the variation in specific resources which is typical for work engagement. Similarly, in this study work engagement is assumed to be a momentary work-related experience. However, we did not distinguish between state work engagement and trait work engagement. In future research, a diary study may uncover the relationships between relatively stable job-related resources and the dynamic component of work engagement.

CONCLUSION

The current study shows that resources at both the individual and the team levels may promote individual work engagement through individual and collective job crafting, respectively. This finding provides a valuable contribution for understanding the effects of resources at different levels, as assumed by COR theory. This study adds to the COR literature by not only showing that resource-related processes operate at different levels, but also by exploring how individual work engagement can be promoted by multilevel job crafting.

ETHICS STATEMENT

This study was conducted in accordance with the ethical guidelines set by the Institutional Review Board of Zhejiang University of Technology in China, with written informed consent from all subjects. Employees participated in our study voluntarily. The protocol was approved by the ZJUT Secretariat of Academic Committee of Zhejiang University of Technology, China. The permit number is 2017001.

AUTHOR CONTRIBUTIONS

QH led the work carried out on the study, including its conceptualization, research design, data collection and data analysis, and took the lead in writing the manuscript. WS and TT contributed to the conceptualization of this study and contributed to its write-up. AS was involved in the original conceptualization of the work. MD was involved in the statistical analyses of the data and contributed to its write-up.

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Age and Perceived Employability as Moderators of Job Insecurity and Job Satisfaction: A Moderated Moderation Model

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Workforce ageing and the need to work longer implies several challenges worldwide. Due to the potential for career prolongation, one such implication is to understand how age and perceived employability buffers relationship effects between job insecurity and job satisfaction. Therefore, this research aims to investigate the moderating roles of perceived employability and age on the relationship between job insecurity and job satisfaction. Hypotheses were tested using a three-way interaction model based on a cross-sectional design with a representative sample of 1,116 Chilean workers. Results show that age plays an important role in employees with high perceived employability; however, it has no effect on employees with low perceived employability. Younger workers with high perceived employability suffer less than do older employees with high perceived employability in terms of intrinsic job satisfaction. From a theoretical point of view, perceived employability in older workers does not reduce the unfavorable consequences of job insecurity. Regarding practical implications, organizations should manage and develop older workers by focusing on intrinsic aspects of their careers and on retirement preparation, as this will improve control and other positive resources in this population.

Keywords: job insecurity, perceived employability, job satisfaction, age, extrinsic satisfaction, intrinsic satisfaction

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INTRODUCTION

Over the last quarter of the 20th century and the first decades of the 21st, there has been a radical shift in working environments from secure to insecure due to unprecedented transformations in demography, labor market, technology, economy, and politics. Insecurity regarding the future of work is demonstrably increased (Benach et al., 2014), and many factors compound the risk of job insecurity, e.g., high-to-low shifts in mortality and fertility, which have accelerated the ageing of world populations (Andreev et al., 2013).

Job insecurity has been shown to impact individual behavior, well-being, and work attitudes (Sverke et al., 2006). Negative consequences of job insecurity include, for instance, increased burnout (Aybas et al., 2015), decreased well-being (Berntson et al., 2010; Green, 2011), and life satisfaction (Silla et al., 2009; Sora et al., 2010). Job insecurity has also been shown to be related with

overall job satisfaction (De Cuyper et al., 2009), and also with intrinsic and extrinsic job satisfaction (Buitendach and De Witte, 2005). The present research focuses on the above relationship, testing the moderating role perceived employability and age play in this relationship.

Of great interest to the field, then, would be a better understanding of concepts associated with ameliorating the effects of job insecurity, known as "buffer mechanisms." Employability has been studied as one such mechanism, as have age differences. In the former, it is important to take a more in-depth look at the perceived aspects of being employable, since self-perception influences behavior, reactions, and thoughts within professional lives and beyond (Berntson, 2008). For the latter, what little has been studied on the moderating effect of age on the relationship between job insecurity and job satisfaction is inconsistent: as Lee et al. (2018) established, it is important to consider how demographic differences influence individual responses to job insecurity. From a job dependence perspective (Greenhalgh and Rosenblatt, 1984), older workers are more vulnerable to experience job insecurity because they are more dependent on their current jobs (Cheng and Chan, 2008). In addition, older employees tend to perceive themselves as less employable when comparing themselves to younger counterparts (Van der Heijden, 2002; Rothwell and Arnold, 2007; Wittekind et al., 2010; Froehlich et al., 2015; Peeters et al., 2016). Regarding both age and employability, older and younger workers may cope differently with either the consequences or the negative stereotypes related to older workers depending on how they perceive their employability (Posthuma and Campion, 2008; Finkelstein et al., 2015). Indeed, age can have negative consequences on job offers for older workers (Ahmed et al., 2012). Some job dimensions, such as high learning value, might affect self-reported employability, which may be moderated by age (Van der Heijden et al., 2016). Previous studies have also predominantly indicated that young individuals self-report higher employability over the elders (Van der Heijden, 2002; Van der Heijde and Van der Heijden, 2006; Rothwell and Arnold, 2007; Wittekind et al., 2010; Froehlich et al., 2015; Peeters et al., 2016; Böttcher et al., 2018). Indeed, several studies have shown a negative relationship between age and perceived employability (Van der Heijden, 2002; Van der Heijde and Van der Heijden, 2006).

Given the conditions of job insecurity as above, it is clear that society must redouble its efforts to maintain job satisfaction. Understanding how both intrinsic and extrinsic satisfaction are affected by job insecurity, and how this can be moderated by age, employability, or a combination of these. The latter is important and is the focus of this paper. As Froehlich et al. (2015) affirm, identifying how perceived employability influences the relationship between job insecurity and job satisfaction across different career stages is critical to developing counseling interventions and policy recommendations.

As such, this research seeks first, to examine the effects of job insecurity on job satisfaction (extrinsic and intrinsic); and second, how perceived employability and age moderate that relationship. The practical implications are clear. By exploring these novel three-way interactions moderating both intrinsic and extrinsic job satisfaction, this contribution to the field of job insecurity will aid in coping with the increasing tension between labor instability and the ageing population. Therefore, getting older could be a resource or a demand depending on context variables, becoming the real threat that could interact with employability. Understanding the role age could play in coping with job insecurity, could help develop specific career interventions, aiming to address vulnerability and discrimination older workers may suffer, who, having employability, are forced to finish their careers prematurely.

Job Insecurity and Job Satisfaction

The term job insecurity has been used in a variety of ways. The current paper defines job insecurity as "the subjectively perceived and undesired possibility to lose the present job in the future, as well as the fear or worries related to this possibility of job loss," following Vander Elst et al. (2014, p. 365). Within this perspective, job insecurity not only denotes perceived threats to the job as a whole (De Witte, 1999), but has also been shown in the literature to influence several attitudinal outcomes (Lee et al., 2018). In a recent meta-analysis, Sverke et al. (2018) stated that the relationship between job insecurity and several other organizational variables is strong and stable over time; however, there is still no evidence of intervening variables.

As such, the present paper focuses on the means through which job insecurity impacts job satisfaction, which is considered a "key attitudinal outcome," with a particular emphasis on both intrinsic and extrinsic aspects. This distinction is not irrelevant; rather, job satisfaction can be affected specifically in either category rather than a more general approach (Spector, 1997; Gamboa et al., 2009), and this two-dimensional approach to job satisfaction allows further comprehension of both components (Oldham and Hackman, 2010) to interrelate differently with other variables, e.g., job involvement (Hirschfeld, 2000). Job satisfaction mediates the relationship between job insecurity and other aspects, such as organizational citizenship behavior, deviant behavior, anxiety, anger, and burnout (Reisel et al., 2010); exit, voice, loyalty, and neglect (EVLN) responses (Tayfur et al., 2018); life satisfaction of family members (Emanuel et al., 2018); and Decent Work, specifically as measuring intervention impact on reducing the negative effects of job insecurity (Emanuel et al., 2018; Tayfur et al., 2018; Masdonati et al., 2019). As such, job satisfaction is relevant in understanding the relationship among all these constructs and has been shown to moderate some negative consequences of job insecurity.

Several theories have attempted to explain the above relationships among various aspects of job insecurity and job satisfaction. These include stress theory, job demands-resources model, and psychological contract theory. According to stress theory (Lazarus and Folkman, 1984), job insecurity is perceived as a work stressor, given that the anticipation of possible job loss can be perceived as a source of anxiety as importantly as the loss itself. Cheng and Chan (2008) pointed out that job insecurity is a powerful stressor, which results in a variety of strain outcomes, including poor well-being, diminished job attitudes, and poor performance. Next, according to the job demands-resources model (Bakker and Demerouti, 2007, 2013), job insecurity can

be seen as a threatening demand, in particular, when demands are higher than the resources (provided by the organization or personal ones); or when the existing resources are not enough to buffer the impact of job demands on strain, resulting in a decrease of job satisfaction. Third, psychological contract theory (De Cuyper and De Witte, 2006) suggests that perceived violations of socio-emotional expectations are manifested as job insecurity, i.e., the disconnect between employee effort and employer security; that situation may lead employees to decrease loyalty and effort in order to restore the balance of the expectations between employers and employees (Vander Elst et al., 2014). Regardless of framework, it can be expected that job insecurity has negative outcomes.

Indeed, a growing body of research based on these theories has pointed out that job insecurity negatively affects employee attitudes, behaviors, and health (Sverke et al., 2002; Cheng and Chan, 2008; Silla et al., 2009; Sora et al., 2010; Peiró et al., 2012). Moreover, consistent evidence indicates negative associations among job insecurity and key attitudinal outcomes, such as employee organizational commitment and job satisfaction (Ito and Brotheridge, 2007; De Cuyper et al., 2009; König et al., 2011; Debus et al., 2012; Jiang and Probst, 2016). Interestingly, between extrinsic and intrinsic job satisfaction, Buitendach and De Witte (2005) found that job insecurity negatively impacts extrinsic, but not intrinsic, job satisfaction; this suggests that job insecurity is related with extrinsic aspects of job satisfaction, such as the type of contract. However, considering that job insecurity has a negative impact on wellbeing (Mauno and Kinnunen, 1999) it is worth reviewing if intrinsic job satisfaction is also negatively impacted.

Based on these theoretical frameworks and on the results of previous studies, the first hypothesis was formulated:

> Hypothesis 1: Job insecurity will negatively correlate with intrinsic (H1a) and extrinsic (H1b) job satisfaction. The relationship will be stronger for H1b than for H1a.

Perceived Employability as Moderator

There is no consensus on how to define employability (Kluytmans and Ott, 1999; Fugate et al., 2004). However, authors generally agree that employability refers to employee ability to obtain and maintain employment (Hillage and Pollard, 1998); to the chances of finding alternative employment, either on the internal or the external labor market (Forrier and Sels, 2003); and to the development of variegated attributes, abilities, and competences. In the latter sense, Fugate et al. (2004) conceptualized employability as "a form of work-specific active adaptability that enables workers to identify and realize career opportunities" (p. 16), composed of the following three dimensions: human and social capital, career identity, and personal adaptability. Similarly, Van der Heijde and Van der Heijden (2006) considered employability to be "the continuous fulfilling, acquiring or creating of work through the optimal use of competences" (p. 453), which establishes a model of employability based on occupational expertise, anticipation and optimization, personal flexibility, corporate sense, and balance. From a subjective perspective, perceived employability was defined as "the individual's perception of his or her possibilities of getting new employment and is thus approached from the individual's perspective" (Berntson and Marklund, 2007, p. 281). Employability is related to the perception one has toward the opportunities available and the amount of effort needed to get a job.

In all, employability represents how attractive individuals can be to the labor market, where highly employable people are more valued by employers (Berntson et al., 2006). Moreover, employable people tend to seek better jobs; they are more likely to quit jobs they find unrewarding or unsatisfying; and act upon their perception that there are better alternatives, particularly by engaging in job search behavior (De Cuyper et al., 2008). McArdle et al. (2007) showed how highly employable individuals have better outcomes at finding new jobs than those with lower employability levels. Indeed, those with high perceived employability usually receive more job offers (De Cuyper et al., 2009; Silla et al., 2009) and have more opportunities to leave low quality jobs for better ones (Berntson and Marklund, 2007).

Although job insecurity and perceived employability are comparable in that they are subjective perceptions regarding the future (De Witte et al., 2015), there is an important distinction: job insecurity relates to the future of the current job, whereas perceived employability concerns future jobs – be these with the current employer or another (De Cuyper et al., 2018). De Witte and De Cuyper (2015) summarized the relationship between job insecurity and perceived employability from two points of view. First, job insecurity might mediate perceived employability in regards to several outcomes. For example, more employable people may perceive less job insecurity, which may lead them to feel less exhausted (De Cuyper et al., 2012). Perceived employability among workers who experience job insecurity increases risk of deviant behaviors and intentions to leave; in such conditions, employees are likely to develop rationalizations to decrease cognitive dissonance regarding their moral disengagement (De Cuyper et al., 2009; Huang et al., 2017). Second, over the past few years, there has been increasing research into perceived employability as moderator of relationships among perceived job insecurity and its negative consequences. Karasek (1979) also sought to explain that interaction with job demands-control model, which considers job insecurity as highly demanding, and perceived employability as highly controlled; in that model, a combination of high demands and low control leads to employment strain, increasing job dissatisfaction. In addition, the interaction between job insecurity and employability, can be explained by the job demand resources model (Demerouti et al., 2001). The model states that resources act as buffers against the negative "job strain" effects that job demands produce. Consequently, many authors suggest that resources are the most important predictors of job satisfaction (Demerouti et al., 2001; Bakker and Demerouti, 2007, 2013). In this sense, perceived employability can be modelled as a personal resource that increases job satisfaction by buffering the negative effects of job insecurity (as a demand). When perceived employability is high, the worker sense of control increases, leading to development of proactive behaviors to deal with job insecurity (Lee et al., 2018). Empirical evidence has since shown

how perceived employability buffers the negative effects of job insecurity (De Cuyper et al., 2008). For example, Aybas et al. (2015) found that perceived employability buffers the negative relationship between job insecurity and burnout; Silla et al. (2009) found that the negative effects of job insecurity on life satisfaction were significantly reduced in employees with high perceived employability, with a special emphasis on how perceived employability helps employees to cope with their perceptions of job insecurity; and still other studies have supported the interaction between job insecurity and perceived employability in relation to well-being (Berntson et al., 2010; Green, 2011).

Regarding the effect that perceived employability exerts on job satisfaction, several authors have shown a positive relationship between both variables (Hillage and Pollard, 1998; Forrier and Sels, 2003; Berntson and Marklund, 2007; De Cuyper et al., 2008). Though distinguishing between measures of extrinsic and intrinsic job satisfaction, Gamboa et al. (2009) found positive relationships between perceived employability and both dimensions of job satisfaction. Furthermore, perceived employability has been explored for intrinsic and extrinsic job aspects (Van Emmerik et al., 2012): for intrinsic aspects, worker sense of competence improves their perceived employability; while extrinsic aspects relate to perceived employability via the perception of, for example, upward mobility (perceiving more opportunities to achieve different tangible rewards).

The aforementioned job demands-resources model, in which job insecurity as job demand can affect extrinsic and intrinsic dissatisfaction, while perceived employability as personal resource can affect higher intrinsic and extrinsic levels of satisfaction (Lu et al., 2015; De Cuyper et al., 2018), has led to the following hypothesis:

> Hypothesis 2: Perceived employability will moderate the relationship between job insecurity and intrinsic (H2a) and extrinsic (H2b) job satisfaction. The negative relationship between job insecurity and job satisfaction will be weaker under the condition of high versus low perceived employability.

Age as Moderator

As a demographic factor, age has the potential to affect job insecurity and its relationship with job satisfaction. Though empirical evidence on the relationship between age and job insecurity is not entirely clear, some studies have shown that younger people experience higher levels of job insecurity (Roskies and Louis-Guerin, 1990; Keim et al., 2014). However, other studies have reported that older people experience higher levels of job insecurity (Mohr, 2000; Näswall and De Witte, 2003). Interestingly, Fullerton and Wallace (2007) identified a curvilinear relation between age and job insecurity.

The impact of age on the relationship between job insecurity and job satisfaction might be influenced by age stereotypes: according to Posthuma and Campion (2008), negative consequences of age-related stereotypes include lowered motivation, capacities, productivity, sense of belonging, and higher difficulties in learning and resistance to change. Stereotypes regarding older people are different in each life domain (Kornadt and Rothermund, 2011), and have been consistently refuted in the work domain (Posthuma and Campion, 2008). Even so, when these stereotypes are negative, they can have adverse effects on self-esteem, encourage discrimination, and even self-exclusion (Weiss et al., 2013). Meta-stereotypes can also play a role within this dynamic. Meta-stereotypes are beliefs a person has about the stereotypes that others, typically individuals outside the group, have of them; these assumptions vary according to the outside reference group (Vorauer et al., 1998). Meta-stereotypes can be classified as positive or negative, and they result in several reactions. For example, a positive meta-stereotype can activate emotions such as happiness and satisfaction or may lead to a sense of threat; a negative-stereotype may also be perceived as a threat, or as an opportunity and a source of motivation (Finkelstein et al., 2015). However, negative meta-stereotypes are more likely to negatively affect perceived employability (Owuamalam and Zagefka, 2014; Finkelstein et al., 2015). Finkelstein et al. (2013) found that older workers focus mainly on negative characteristics, tending to believe younger people view them as boring, old, stubborn, and grumpy. Although these meta-stereotypes were proven not to be accurate, even so, younger workers, described them as responsible, mature, and hard working. Notwithstanding that older workers thought middle-aged workers see them less negatively than younger people, stereotypes were actually more positive than what they expected.

Older workers may therefore respond more strongly to job insecurity than younger employees, since they may be more sensitive to economic insecurity or more dependent on their current jobs (Greenhalgh and Rosenblatt, 1984), which may be taken as a threat to their work identity (Cheng and Chan, 2008). Claes and Van De Ven (2008) compared the relationship between job insecurity and job satisfaction among younger employees (less than 25 years old) and older workers (more than 50) and found that the negative effect of high job insecurity on job satisfaction was buffered for younger workers. However, a meta-analysis by Cheng and Chan (2008) found the association between job insecurity and job satisfaction not to differ between younger and older employees. Additionally, there is some evidence arising from studies into the relationship between age and job satisfaction. Clark et al. (1996) reported a U-shape relationship between age and overall satisfaction, satisfaction with pay (extrinsic job satisfaction) and satisfaction with work itself (intrinsic job satisfaction). Also, Ng and Feldman (2010), in a meta-analytic review, found a positive, though weak, relationship between age and overall, intrinsic, and extrinsic job satisfactions. However, when controlling for organizational tenure, the relationship between age and intrinsic satisfaction increased, and the relationship between age and overall and extrinsic satisfaction decreased. Moreover, Drabe et al. (2015) found that both intrinsic and extrinsic job characteristics are more predictive of younger employee job satisfaction, while job satisfaction for older employees is related to establishing good colleague relationships. Finally, the impact of age on the relationship between job insecurity and job satisfaction may be higher for older workers when job insecurity is related to retirement concerns (Gaines et al., 2018).

As noted, the relationship between job insecurity and job satisfaction may be weaker for younger workers than for older workers, especially given the latter's sensitivity to economic insecurity, dependence on their positions, and their proximity to retirement. Considering these arguments, the third hypothesis of this study is:

Hypothesis 3: Age will moderate the relationship between job insecurity and intrinsic (H3a) and extrinsic (H3b) job satisfaction. The negative relationship between job insecurity and job satisfaction will be weaker for younger employees than for older employees.

The Interaction Between Perceived Employability and Age

While acknowledging that the above hypotheses may explain some variance in the complex interactions among job insecurity, age, and perceived employability, it is important to fully explore the relationships among variables. Indeed, several studies have attempted to describe the relationship between age, perceived employability, stereotypes, and meta-stereotypes (Ahmed et al., 2012; Finkelstein et al., 2013; Van Selm and Van der Heijden, 2013). Of particular interest, Froehlich et al. (2015) proposed a model for not just chronological age, but also future time perspective and goal orientations, to understand how age can interact with employability. Though the authors conclude a positive relationship between formal learning at work and employability, they nonetheless suggest a negative relationship between ageing and formal learning; as workers get older, they lose interest in formal learning, potentially resulting in older workers missing opportunities to enhance employability through training. Similarly, Truxillo et al. (2015) state that older workers have increased interest in the intrinsic aspects of work, such as accomplishment, connection with others, autonomy, and social motives, but decreased interest in growth motives (achievement and mastery), which are some of the aspects most valued by the labor market.

The job demands-resources model is thus a useful framework for integrating all the variables under study. Age may be conceptualized as a demand for older workers, given the negative outcomes at work stemming from meta-stereotypes (Finkelstein et al., 2013). At the same time, age would be a resource for young workers, due to the positive perception older worker groups share of them, perceiving young employees as talent that needs to be encouraged and developed (Finkelstein et al., 2013). Ageing is a normative and unavoidable process, it is not something people have control over, so as workers get older, the meta-stereotypes on how younger workers view them, may become more negative. The job demands-resources model guides this complex interplay as a very clear increase in demands, resulting in a perception of loss of control. Based on this line of reasoning on meta-stereotypes, it is likely harder for older workers to cope with job insecurity.

It has been observed that differences in age result in differences of cognition, personality, and motivational changes, which derive in that the efforts made to achieve good performance levels differ among different age groups (Truxillo et al., 2015). In addition, Truxillo et al. (2015) found that age correlates both with increased crystallized intelligence (implying greater wisdom, knowledge, and skills) and with decreases in fluid intelligence (processing speed, working memory, and selective attention). In this sense, Guglielmi et al. (2016) stated that older workers need more effort to achieve higher levels of work performance when facing tasks based on fluid intelligence. From the labor market perspective, the new resources gained when ageing (crystallized intelligence) are not valued; rather, the decrease in certain skills (fluid intelligence) might lead older workers to perceive themselves as less valued by the environment. Therefore, in addition to meta-stereotypes, this paper considers age a demand for fluid intelligence tasks for older workers, and a resource for younger workers given the same situation. Indeed, the meta-analysis by Bal et al. (2011) examined age effects on several organizational decisions and found that higher age was associated with negative outcomes regarding advancement, overall evaluation, and selection.

As noted, employability may be conceptualized as a personal resource that addresses job insecurity (demand). Given the situation of young employees with high perceived employability, workers hold two resources (age and perceived employability) that interact to increase the perception of control and optimism in coping with job insecurity. Contrarily, an older worker with high perceived employability will have only the resource of employability, and thus greater demand (job insecurity and age). This is likely compounded by a perception of less opportunity following job loss, which would further weaken employability as a resource; and further by the loss of perceived control in the presence of relevant macro-level factors like retirement, downsizing, or corporate culture (Schreurs et al., 2011). Therefore, age is a relevant variable in work contexts, and since negative meta-stereotypes regarding age are not uncommon (Finkelstein et al., 2015), any increased negative reaction to meta-stereotypes would easily counteract the positive effects employability has on job insecurity and job satisfaction.

Based on the preceding information, the fourth hypothesis is:

Hypothesis 4: There will be a three-way interaction between job insecurity, perceived employability, and age in the prediction of intrinsic (H4a) and extrinsic (H4b) job satisfaction. Young employees who perceive job insecurity and have higher perceived employability will have higher job satisfaction.

MATERIALS AND METHODS

Sample

This study uses data from the 2018 national panel study, *Zoom al trabajo* (a closer look at work, in English), annually conducted since 2014 through personal interviews. The 2018 iteration worked with 1,586 Chileans with paid jobs, from 18 to 80 years old, living in the thirteen largest cities of the country. This study makes use of probabilistic sampling, and results are weighted by sex, age, socioeconomic status, and city size. The sampling error was 2.5%. Of the interviewees, 29.6% were excluded for

the purposes of this study because they were self-employed, and so did not fit criteria to answer the questions regarding job satisfaction. The effective sample was thus $N = 1{,}116$, with 56.5% of the respondents male. The age composition of the sample was as follows: 22.2% were 18–29; 36.7% were 30–44; 34.9%, 45–59; and 6.2%, 60–65 years old. The average age was 40.21 years old ($SD = 11.68$). The distribution of socioeconomic status[1] is as follows: 1.6% AB; 16.6% C1A; 14.8% C1B; 26.2% C2; 24.2% C3; and 16.7% D.

Measures

Analyses were controlled for gender (1 = men; 0 = women), socioeconomic status (1 = D; 2 = C3; 3 = C2; 4 = C1B; 5 = C1A; 6 = AB), and formality of employment (1 = formal employment; 0 = informal employment). The choice of control variables was based on previous research findings, which indicated that men tend to report better perceived employability (Flecker et al., 1998), as well as higher levels of job insecurity (Kinnunen et al., 2000) compared with women. Also, Sloane and Williams (2000) found that women are more satisfied with their jobs than men. Regarding to socioeconomic status, Wunder and Schwarze (2006) stated that income inequality has an impact on individual welfare. In addition, labor market participation of ageing workers in Chile is characterized by jobs that tend to exhibit greater levels of informality and precariousness (Vives et al., 2016). In this avenue, Cassar (2010) found that informal employees in Chile tend to have poorer job protection than do formal workers, which lowers job satisfaction.

Job insecurity was measured using the Job Insecurity Scale (JIS), developed by De Witte (2000) (see Vander Elst et al., 2014). This scale is composed of four items (5-point Likert scale), and has been validated in English, Spanish, Dutch, Flemish, and Swedish. The Spanish version had an internal consistency of 0.87. In this study, Cronbach's alpha was also 0.87. The scale evaluates the threat of job loss and concerns about job loss. An item example is "Chances are, I will soon lose my job."

Age Was Measured in Years

Perceived employability was measured using a 5-point Likert scale of four items, developed by De Witte (1992) (see De Cuyper et al., 2014), which has an internal consistency of 0.92, and a Cronbach's alpha between 0.85 and 0.90 (Van Hootegem et al., 2018). In this study, internal consistency was 0.91. The items were "I could easily find another job, if I wanted to"; "I am confident that I could quickly get another job"; "I am optimistic that I would find another job, if I looked for one"; and "I will easily find another job if I leave this job."

Measures of job satisfaction were based on García-Montalvo et al. (2003), who described extrinsic satisfaction as an emotional response or general attitude toward extrinsic aspects of the labor activity itself, such as economic resources, stability at work, promotion opportunities, or labor conditions; and intrinsic satisfaction, as an emotional response to aspects of the job itself, such as opportunities to learn, the variety of tasks and the skills required for a given job, and autonomy. The measure takes nine items with a 7-point Likert scale: intrinsic job satisfaction was measured using five items referring to development and training opportunities, voice and participation opportunities, enjoyment, space for creativity and innovation, and autonomy to make decisions; and the extrinsic job satisfaction dimension was measured with items on income and rewards, job stability, work-non-work conciliation, and organizational prestige. Internal consistency of intrinsic job satisfaction was 0.89, and for extrinsic 0.75.

Analytical Procedure

Hierarchical regression analyses were used to test hypothesized relationships. To alleviate the potential multi-collinearity problem, variables were mean-centered before creating the interaction terms (Aiken and West, 1991). Hierarchical regression in this study had four successive steps. The first step included the control variables; the second step, effects of job insecurity, perceived employability, and age; the third, three cross-product terms for job insecurity and perceived employability, job insecurity and age, and perceived employability and age; and finally, the cross-product terms of the three predictors in order to test hypothesized interaction effects. For a more specific test of the hypotheses, a simple slope analysis was conducted following Aiken and West (1991). Slope difference tests were also calculated following Dawson and Richter (2006).

RESULTS

The means, standard deviations, reliabilities, and correlations among key variables are shown in **Table 1**.

Hypothesis 1 posited that job insecurity would be negatively related to intrinsic and extrinsic job satisfaction. The results obtained by hierarchical multiple regression (see **Table 2**), after controlling variables at step 1, indicated that job insecurity was negatively related to intrinsic ($\beta = -0.28$; $p < 0.001$) and extrinsic job satisfaction ($\beta = -0.38$; $p < 0.001$). Therefore, these results support hypotheses 1a and 1b. In addition, perceived employability and age were positively related to intrinsic (perceived employability: $\beta = 0.15$; $p < 0.001$; age: $\beta = 0.06$; $p < 0.05$) and extrinsic job satisfaction (perceived employability: $\beta = 0.17$; $p < 0.001$; age: $\beta = 0.08$; $p < 0.05$). This step increased the explained variance of job satisfaction indicators (intrinsic: $\Delta R^2 = 0.115$, $p < 0.001$; extrinsic: $\Delta R^2 = 0.182$, $p < 0.001$).

In hypotheses 2 and 3, perceived employability and age was expected to moderate the relationships between job insecurity and intrinsic and extrinsic job satisfaction. The results obtained at step 3 of the hierarchical multiple regression indicated that interactions for job insecurity and perceived employability were significantly related to extrinsic job satisfaction ($\beta = 0.06$; $p < 0.05$), but not intrinsic job satisfaction ($\beta = -0.01$; $p > 0.05$). Furthermore, the interaction between job insecurity and age

[1]The national classification system of the socioeconomic status in Chile consists of six levels depending on the per capita income by household. In 2017, the current calculating formula replaced the previous one, which was based on the European Society for Opinion and Marketing Research. Each of the six groups has a letter or a combination of letters and numbers assigned (AB, C1a, C1b, C2, C3, and D), which are distributed by descending order, where the first has the highest income, and so on.

TABLE 1 | Descriptive statistics (means and standard deviations) and correlations.

Variables	*M*	*SD*	1	2	3	4	5	6	7	8
(1) Gender (1 = male)	–	–	–							
(2) Socioeconomic state	2.24	1.32	0.14***							
(3) Formal employment (1 = yes)	–	–	0.01	0.06*						
(4) Perceived employability	3.35	0.94	0.06*	−0.10**	0.02	(0.91)				
(5) Job insecurity	2.67	0.90	0.03	−0.18***	−0.13***	−0.14***	(0.87)			
(6) Age	40.21	11.68	0.19***	0.28***	0.09***	−0.24***	−0.02			
(7) Intrinsic job satisfaction	4.92	1.22	0.01	0.05	−0.03	0.18***	−0.30***	0.02	(0.89)	
(8) Extrinsic job satisfaction	5.25	1.13	0.01	0.05	0.03	0.20***	−0.40***	0.04	0.75***	(0.75)

*Cronbach α in brackets *p < 0.05; **p < 0.01; ***p < 0.001.*

TABLE 2 | Hierarchical regression analysis of job insecurity, employability, and age in predicting intrinsic and extrinsic job satisfaction.

	Intrinsic job satisfaction				Extrinsic job satisfaction			
	Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 1**	**Step 2**	**Step 3**	**Step 4**
Step 1: Control variables								
Gender (1 = male)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Formal employment (1 = yes)	−0.03	−0.08**	−0.07*	−0.07*	0.03	−0.03	−0.03	−0.03
Socioeconomic state	0.05	0.00	0.00	0.00	0.05	−0.02	−0.02	−0.02
Step 2								
Perceived employability		0.16***	0.16***	0.16***		0.17***	0.18***	0.18***
Job Insecurity		−0.28***	−0.29***	−0.30***		−0.38***	−0.38***	−0.39***
Age		0.06*	0.05	0.04		0.08*	0.08*	0.08*
Step 3: Interactions								
Job Insec × Employa			−0.01	0.00			0.06*	0.07*
Job Insec × Age			−0.08**	−0.08**			−0.03	−0.03
Employa × Age			−0.05*	−0.06*			−0.04	−0.05
Step 4:								
Job Insec × Employa × Age				−0.07*				−0.04
R^2	0.003	0.118***	0.125***	0.129***	0.003	0.186***	0.192***	0.194***
ΔR^2		0.115***	0.007*	0.004*		0.182***	0.007*	0.002

*p < 0.05; **p < 0.01; ***p < 0.001. Insec = Insecurity; Employa = Employability.*

was significantly related to intrinsic job satisfaction (β = −0.08; $p < 0.05$), but not extrinsic job satisfaction (β = −0.03; $p > 0.05$). These interactions above, as well as the three-way interactions, significantly increased the explained variance of intrinsic ($\Delta R^2 = 0.007$, $p < 0.05$) and extrinsic job satisfaction ($\Delta R^2 = 0.007$, $p < 0.05$). To clarify these results, both interactions were graphically illustrated by plotting moderator variables (perceived employability in **Figure 1**, and age in **Figure 2**) at 1 SD below the mean and the other at 1 SD above the mean. For perceived employability as moderator, slopes were significant for employees with high perceived employability ($t = -7.714$; $p < 0.001$) and low perceived employability ($t = -10.085$; $p < 0.001$). **Figure 1** shows how perceived employability buffers the negative relationship between job insecurity and extrinsic job satisfaction. In the case of age as a moderator, slopes were also significant for older ($t = -8.089$; $p < 0.001$) and younger employees ($t = -4.509$; $p < 0.001$). **Figure 2** shows how the negative effect of job insecurity on intrinsic job satisfaction is weaker in younger than older workers. However, the absolute levels seem to be similar. Thus, these results provide support for the hypotheses 2b and 3a, but not for hypotheses 2a and 3b.

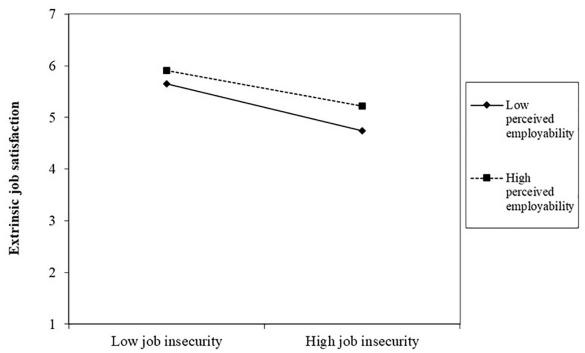

FIGURE 1 | Perceived employability as moderator of the relationship between job insecurity and extrinsic job satisfaction.

Hypothesis 4 stated that the combination of perceived employability and age would moderate the relationship between job insecurity and extrinsic and intrinsic job satisfaction. In this case, after the control variables, independent variable effects, and

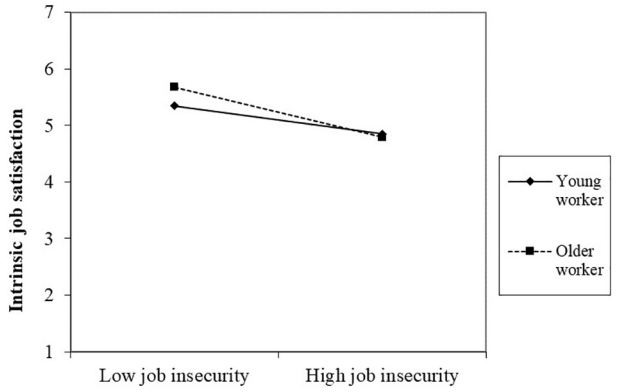

FIGURE 2 | Age as moderator of the relationship between job insecurity and intrinsic job satisfaction.

interactions among independent variables, results showed that the three-way interaction significantly increased the explained variance of intrinsic job satisfaction ($\Delta R^2 = 0.004$, $p < 0.05$), but not extrinsic job satisfaction ($\Delta R^2 = 0.002$; $p > 0.05$); in total, the proposed model explained 12.9% of intrinsic job satisfaction variance and 19.4% of extrinsic job satisfaction. Regression analysis showed significant three-way interactions for intrinsic job satisfaction ($\beta = -0.07$; $p < 0.05$). Therefore, these results support hypothesis 4a, but not hypothesis 4b.

The results of the significant three-way interaction for intrinsic job satisfaction is plotted in **Figure 3**, which graphically depicts interaction effects among job insecurity, perceived employability, and age on extrinsic and intrinsic job satisfaction. Slopes were significant for younger workers with high perceived employability ($t = -8.404$; $p < 0.05$), younger workers with low perceived employability ($t = -12.017$; $p < 0.05$), older workers with low perceived employability ($t = -8.310$; $p < 0.05$), and older workers with high perceived employability ($t = -8.855$; $p < 0.05$). *t*-Test results of comparisons among slopes indicated that the slope for younger workers with high perceived employability is significant, in contrast to that of older workers with high ($t = -3.835$; $p < 0.05$) and low perceived employability ($t = -2.246$; $p < 0.05$), and that of younger workers with low perceived employability ($t = 2.702$; $p < 0.05$). In addition, the slope of older workers with high perceived employability significantly differs from older workers with low perceived employability ($t = -2.064$; $p < 0.05$). These results indicate that job insecurity negatively affects intrinsic job satisfaction, though the effect is weaker in young workers with high perceived employability than for older workers with high and low perceived employability and for younger workers with low perceived employability. In addition, this effect is weaker in older workers with low perceived employability over those with high perceived employability.

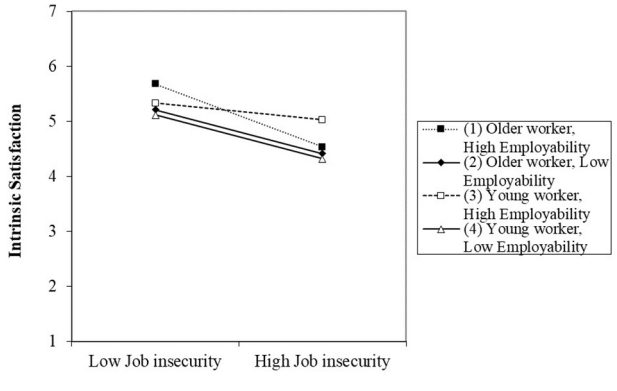

FIGURE 3 | Interaction between job insecurity, perceived employability, and age in predicting intrinsic job satisfaction.

DISCUSSION

The present study investigated how combinations of age and perceived employability affect the relationship among job insecurity and intrinsic and extrinsic job satisfaction. As expected, job insecurity was negatively related to both job satisfaction dimensions (extrinsic and intrinsic). In the field of job insecurity, these results replicate previous findings on its negative effects on employee attitudes, behaviors, and health (Sverke et al., 2002; Ito and Brotheridge, 2007; Cheng and Chan, 2008; De Cuyper et al., 2009; Silla et al., 2009; Sora et al., 2010; König et al., 2011; Debus et al., 2012; Peiró et al., 2012; Jiang and Probst, 2016). In the specific area of studying differentiated extrinsic and intrinsic job satisfaction, our results also partially align with the findings in Buitendach and De Witte (2005), who found that job insecurity negatively affects extrinsic, but not intrinsic, job satisfaction.

Results also show that perceived employability may be relevant in buffering negative job insecurity consequences for extrinsic, but not intrinsic, job satisfaction; previous studies suggested that perceived employability acts as a buffer mechanism between job insecurity and attitudes (Forrier and Sels, 2003; Fugate et al., 2004; De Cuyper et al., 2008; Silla et al., 2009). The findings in this paper, however, provide more specific information about the consequences of job insecurity on job satisfaction: the present study defines job insecurity as the possibility of losing a job, income, and social status related to the job; as such, it clearly impacts extrinsic job satisfaction. In less stable scenarios, this effect is more significant, as observed in this study. It should be noted that the relationships between intrinsic aspects of job satisfaction and job insecurity, though present, did not pass the significance threshold. This may be due to a job preservation motivation mechanism (Shoss, 2017), in which insecure workers are motivated to act in ways that they believe can preserve their jobs, such as making extra efforts to work harder, aiming to be noticed and valued within their jobs. This can have, as a consequence, an increase in intrinsic satisfaction. It could also be a coping strategy, as Shoss (2017) mentioned, because it allows people to regain control over their work: what had been perceived as lost due to job insecurity results in positive outcomes, which leads to higher amounts of intrinsic satisfaction. It is well known in stress theory that

people use three types of coping strategies: emotional-focused; avoidance-focused; and problem-focused. Richter et al. (2013) found that emotional-focused and problem-focused were partial moderators of the relationship between job insecurity and job satisfaction. For those oriented toward problem-focused coping strategies, positive outcomes occur when stressors are perceived as controlled (Richter et al., 2013). Therefore, increases in perceived employability can be understood as a problem-focused coping strategy and, in consequence, a resource all workers (but especially older workers) can use to deal with growing job insecurity.

Age was observed to buffer the consequences of job insecurity only in regards to intrinsic satisfaction. As expected, older workers are more vulnerable to job insecurity (Greenhalgh and Rosenblatt, 1984; Cheng and Chan, 2008; Claes and Van De Ven, 2008), which highlights the need to promote interventions. The impact of age on intrinsic (but not extrinsic) satisfaction may be due to older workers being less oriented to extrinsic goals and more oriented to intrinsic ones (Kooij et al., 2011; Truxillo et al., 2012), or since older workers tend to have perceptions of time limitations, as Ng and Feldman (2008). Age changes motivation toward giving more importance to intrinsic aspects of work (Kanfer and Ackerman, 2004), as supported by several studies (Truxillo et al., 2012; Truxillo et al., 2015) and meta-analyses (Kooij et al., 2011).

Regarding three-way interactions, results show that age plays an important role in employees with high perceived employability; however, it has no effect on employees with low perceived employability. In addition, younger workers with a high perceived employability suffer less than do older employees with high perceived employability in terms of intrinsic job satisfaction. Claes and Van De Ven (2008) found similar results for age moderating the relationship between job insecurity and job satisfaction. It seems that the threat of unemployment might impact older employees more deeply because it entails a threat to their career, especially as they approach retirement; for younger employees, in contrast, a job change has fewer implications, and even less for those who perceive themselves as highly employable. Zacher and Frese (2009) found that age was negatively related to perceived opportunities at work, though this effect was reduced when job complexity and control were higher. Therefore, self-perceptions of employability in older workers can be utilized as a resource to cope with low or moderate job insecurity; for higher job insecurity and the perception of less time to recover, however, there will be more negative impact on intrinsic satisfaction. In that sense, the interactions observed in this research imply that protecting effects of high perceived employability can be neutralized in older workers who perceive the threat of losing their jobs. It stands to reason that other factors could trigger job insecurity perceptions, such as social protection systems, ageism and age stereotypes, economic conditions, and so on; this suggests further study is needed in the context of Chile and countries in Latin America.

Between job insecurity and extrinsic satisfaction, only employability, not age, had a moderating effect. This may be related to extrinsic aspects like fear of losing job stability or short-term income, which are insecurities for both younger and older workers; regardless of age, job insecurity affected less employable people more. For intrinsic satisfaction, younger workers feel less threatened by job insecurity when they perceive themselves as more employable.

The empirical evidence yielded in this study has theoretical implications for stress theories. According to the job-demand resources model (Demerouti et al., 2001) and Karasek's job-demand control model, job insecurity is viewed as a stressor or demand, while employability is a resource to give employees a sense of control for coping with this demand (Silla et al., 2009). However, our results show that perceived employability as a resource acts differently depending on age. For younger workers, perceived employability acts a buffer mechanism, as expected; in the case of older workers, however, perceived employability increases the negative relationship between job insecurity and intrinsic job satisfaction. This highlights the fact that perceived employability does not replace job security – indeed, in the case of older workers, it also fails to reduce the unfavorable consequences of job insecurity. Next, the psychological contract point of view assumes that these processes are static and apply equally to all employees (Bal et al., 2008). Our results show that the consequences of job insecurity on job satisfaction or contract breach differ depending on employee career stage or lifespan.

From a practical perspective, the results are especially relevant for those at the middle or end of their professional careers – since older people are seen by the environment as less employable, they begin to experience greater job insecurity due to prejudices and stereotypes that influence policies and practices in organizations. Managers who concentrate on decreasing the level of perceived job insecurity among employees can expect increased levels of intrinsic and extrinsic job satisfaction. Clarity, transparency, and opportunity in potentially threatening messages are crucial to communicate change processes. In addition, since employability is a protector against the negative effects of job insecurity, organizations and workers can engage in career interventions oriented to plan careers and enhance employability. Interventions for older workers must include career and retirement preparation in order to improve control and other positive resources. Gaines et al. (2018) suggest that retirement-related concerns may be alleviated by developing and implementing strategies for workers to cope with job insecurity, so organizations should manage and develop older worker careers by focusing on intrinsic satisfaction, their most valued aspect.

The present study has some limitations. First, the cross-sectional design does not allow for a cause-effect relationship between variables to be established. Despite this limitation, the findings are congruent with previous literature. Nevertheless, testing hypotheses using a longitudinal design is recommended for future research. A second limitation concerns the risk of common method variance due to using self-reported data. However, correlations among study variables differ in size and, as published studies show, "using a self-report methodology is no guarantee for finding significant results, even with very large samples" (Spector, 2006, p. 224). Finally, although some critical external factors that might have affected

our analyses were controlled for, other unmeasured variables may have influenced our results (for example, the type of contract or labor sector).

Future research might expand the aim of the present study. First, relationships might be tested using other employability constructs, such as the dispositional model proposed by Fugate et al. (2004); or the competence model, by Van der Heijde and Van der Heijden (2006). Furthermore, although employability was here studied as a mechanism to cope with job insecurity perceptions, some studies have suggested that employability may increase deviant behaviors and intentions to leave (De Cuyper et al., 2009; Huang et al., 2017). Therefore, future studies should test the role of age on such negative aspects of employability. Second, this model might be extended to examine job insecurity as a collective construct (Sora et al., 2013). Third, research might compare whether effects differ according to quantitative versus qualitative job insecurity (Shoss, 2017).

In sum, our study shows the advantages of perceived employability for young employees in coping with job insecurity. In addition, it demonstrates the necessity to intervene in how older workers perceive their employability, which is not enough to protect them when facing the decision to continue working. Especially when external factors surpass personal factors, as observed, we cannot rely on workers employability as the only key resource in promoting longer careers in times when job insecurity is a permanent and global phenomenon.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of Adolfo Ibáñez University ethics committee with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the Adolfo Ibáñez University Ethics Committee.

AUTHOR CONTRIBUTIONS

JY conceptualized, formally analyzed, performed the methodology, supervised, visualized, edited, and wrote the review. MB conceptualized, visualized, edited, and wrote the review. LC, CM, and GC edited and wrote the review.

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Retirement Savings Model Tested With Brazilian Private Health Care Workers

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Retirement is one of the most serious challenges facing Brazil currently, considering the rapid pace of population aging, growing social inequalities, and the difficulty that Brazilians have in planning for their financial future. The number of studies on psychosocial factors in retirement is limited. The aim of this cross-sectional study is to determine Brazilian health workers' perceptions about financial planning for retirement, based on studies by Hershey and Mowen (2000). In this study, retirement saving – the dependent variable - is highlighted by the use of a model with the following antecedents: parental influence, retirement goal clarity and retirement planning activity level. The goals of the study were to establish mediating and moderating relationships as an innovative approach to the original model. Data was gathered from 319 workers at a private hospital in the municipality of Niterói, Rio de Janeiro (Brazil) who filled out a questionnaire concerning their saving behaviors and antecedents. Results indicated a model in which goal clarity mediated the relationship between parental influence and retirement saving, and retirement activity was observed to influence the level of retirement saving. The findings confirmed the complexities of financial planning for retirement, and emphasized important factors, such as parental advice starting in childhood and the effect of this advice on goal clarity. The results also pointed to the role of individual responsibility in the process, which depended on establishing a plan for activities. In addition to parental advice, an educational approach can contribute encouraging saving behaviors and helping retirees achieve financial security in retirement.

Keywords: retirement, financial planning, goals, savings, well-being

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INTRODUCTION

Currently, population aging represents one of the most serious challenges. The growth of this older population has resulted in an exponential number of retirees (World Health Organization [WHO], 2015). In Brazil, as in other developing countries, the aging process is occurring more quickly (Brazilian Institute of Geography and Statistics [IBGE], 2017). In 2040, the number of elderly Brazilian people is expected to constitute almost one fourth (23.8%) of the population (Miranda et al., 2016). For this reason, demographic change is a challenging issue, especially considering the economical-political crisis and the unsustainable public system of retirement pensions (Ataides and Santos, 2017; Garcia and Haro, 2017). Therefore, retirement planning has generated a number of discussions in many sectors throughout Brazil.

From a psychological point of view, retirement can be a time of satisfaction or stress, depending on retirement-related behaviors developed over the course of the years preceding retirement (França and Vaughan, 2008). Recent studies have confirmed the importance of retirement planning in different aspects such as finance, health, social activity, and psychology (França and Soares, 2009; Zanelli et al., 2010; Yeung, 2013; Boehs et al., 2018).

Previous studies have reported that achieving well-being and satisfaction in retirement depends on several factors, such as financial safety, good health, satisfactory interpersonal relationships, engaging in leisure and work activities (Gutierrez and Hershey, 2014; Muratore and Earl, 2014; Amorim et al., 2017; Guerson et al., 2018). Among these factors, financial safety appears to be the most critical aspect to be achieved in retirement projects in order to contribute to personal satisfaction in this stage of life (Petkoska and Earl, 2009; França and Hershey, 2018; Seidl et al., 2018).

In Brazil, individuals often start working early in life. The National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílios - PNAD) revealed that more than 70% of active workers started working before the age of 17 (Brazilian Institute of Geography and Statistics [IBGE], 2015), suggesting that for young people, entering the job market may not be a planned decision. This data also suggests that leaving the job market is also not planned, and perhaps this is why most workers decide to continue working even after retirement. In a study conducted by the Hong Kong and Shanghai Banking Corporation (HSBC) in 17 countries, Brazil is of one the three countries where active workers plan least for retirement and leaving the job market (Hong Kong and Shanghai Banking Corporation [HSBC], 2015). A majority of Brazilian workers (62%) report that they continue working full or part time, whereas globally, only 56% of older workers do so. In addition, less than one third (28%) of Brazilian workers plan to be totally retired upon leaving the job market (compared to the global mean of 34%). A total of 10% of Brazilians state that they do not plan to retire at all (Hong Kong and Shanghai Banking Corporation [HSBC], 2015).

The Retirement Preparation Programs (RPP) was established in Brazil to support workers in their retirement decisions, in parallel to incentives for voluntary early retirement programs (França and Soares, 2009). Three decades later, these programs are more concerned with promoting retirees' well-being and have been recommended by Brazilian law (Brazil, 2003). Despite this, a survey of managers from 207 organizations (França et al., 2014) showed that although a majority of Brazilian managers consider such a program important, only one quarter of organizations have adopted the program. Around half of Brazilian managers feel that the program should be offered at least three to 5 years before retirement (França et al., 2014).

In many aspects, including financial, emotional, social and family relationships, such programs have the potential to impact the quality of life for a number of future retirees (Leandro-França et al., 2016). In general, organizations adopt these programs 1–2 years before workers are scheduled to retire, and sessions include lectures and workshops to promote discussion about health, retirement legislation, economic issues in retirement, family relationships, volunteering and leisure, among others topics (Zanelli et al., 2010). RRP sessions often last 24 h or more, and they aim to help attendees build a new life project (França and Vaughan, 2008; França and Soares, 2009; Leandro-França et al., 2016).

The lack of adequate retirement planning is a serious concern, both economically and politically, as well as individually. Lack of adequate financial planning for retirement may negatively affect retirees who may end up lacking sufficient income in this final stage of life (Heraty and McCarthy, 2015; Sartori et al., 2016). Helping workers anticipate the risk of income reduction requires an understanding of the planning process, clearly defined reasons for when and why people retire, how they prepare for this stage of life, and how they adjust their lives for retirement (Hershey and Mowen, 2000; Hershey et al., 2007b, 2010). Because of the importance of financial planning for retirement and the number of factors that can influence planning for retirement, Hershey and Mowen (2000) have proposed a psycho-motivational model of financial planning for retirement, in which the dependent variable represents the saving behavior in retirement, i.e., individual practices of saving for retirement. They describe how such behavior is influenced by psychological, social, economic and cultural variables (Hershey and Mowen, 2000).

The Hershey and Mowen (2000) model sought to identify the relationship between knowledge of financial planning and characteristics of individuals' personality (future perspectives, emotional stability, conscientiousness and relevance and impact of retirement) during planning for retirement. The authors reported direct and indirect influences between the constructors investigated, and they concluded that both personal structure and financial knowledge are important predictors for adequate financial planning for retirement (Hershey and Mowen, 2000).

Other studies attempted to refine Hershey and Mowen's model by improving understanding of the aspects that influence financial planning for retirement (Hershey et al., 2010; Gutierrez and Hershey, 2014; Koposko and Hershey, 2014). In addition, studies conducted in a variety of countries on this topic used many variables considered in the psycho-motivational model by Hershey and Mowen (2000), and they included new variables such as parental influence and education in childhood (Koposko and Hershey, 2014; Topa et al., 2018), the influence of friends (Koposko et al., 2016), clarity of retirement goals (Stawski et al., 2007; Topa et al., 2018), financial risk tolerance (Jacobs-Lawson and Hershey, 2005), trust in government pension (França and Hershey, 2018) and planning activity level (Hershey et al., 2007b).

As stated by Kerry (2018), the practice of saving for retirement has already been addressed in different studies including sociodemographic factors such as income, marital status and gender (Petkoska and Earl, 2009; Gutierrez and Hershey, 2014), cognitive antecedents, i.e., financial literacy and financial knowledge (Jacobs-Lawson and Hershey, 2005; Lusardi and Mitchell, 2007), cognitive antecedents, i.e., financial risk tolerance, retirement goal clarity and future time perspective (Stawski et al., 2007; Koposko and Hershey, 2014; Earl et al., 2015; Koposko et al., 2016), and affective antecedents, i.e., emotional stability, neuroticism and extroversion (Hershey and Mowen, 2000; Kerry and Embretson, 2018).

Although these studies constitute important advances for understanding relations among these variables and how this model functions in different cultures, a number of gaps exist to define a comprehensive model of planning for retirement. Only one study was found that addressed the Brazilian context. In that study, França and Hershey (2018) replicated the psycho-motivational model developed by Hershey and colleagues to investigate psychological factors that influence Brazilians' financial planning for retirement. The study was the first step to understanding this process from a psychological perspective. These authors found that future time perspective and retirement goal clarity were the main predictors of adequate perception of saving. The authors emphasized, however, the importance of new Brazilian studies mainly related to financial planning for retirement, as well as research to reveal psychological aspects that can predict and influence this planning (França and Hershey, 2018).

The results found to date support the conclusion that financial planning for retirement is extremely important and should be encouraged among workers as early as possible. The importance of this factor is corroborated by studies from the field of psychology (Hershey and Mowen, 2000; Topa et al., 2011). Although many workers understand the importance of financial planning in retirement decisions, this emerging topic needs further research, actions and policies in the organizational and governmental area. Data presented above reinforces the relevance of the present study, which aims to examine the views of health care professionals with regard to financial planning for retirement, considering psychological, social and economic factors.

Considering the theoretical references analyzed, a cross sectional study model (**Figure 1**) was used to test and explain saving behavior, based on the following antecedents: parental influence on saving habits, retirement goal clarity and retirement planning activity level. These three antecedents for financial planning for retirement were chosen from among other factors identified as influencing this process for specific reasons. Parental influence and retirement goal clarity were selected as possible variables that can be accessed and developed from external interventions. The same is not the case for income, gender, and age related variables, which cannot be changed by the researcher (Stawski et al., 2007; Koposko and Hershey, 2014). Retirement planning activity level was also selected as an antecedent of financial planning for retirement because of the positive relationship between this factor and saving for retirement found in previous studies (Hershey et al., 2007a,b, 2010; Stawski et al., 2007; França and Hershey, 2018).

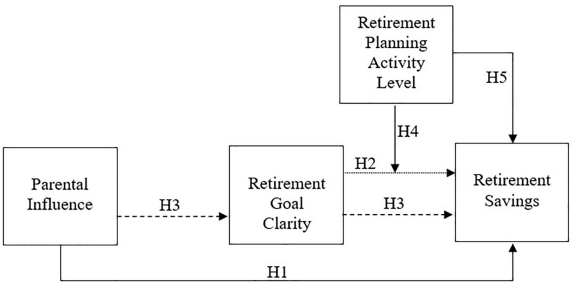

FIGURE 1 | Financial Planning for Retirement Model developed by the authors based on Hershey and contributors (Hershey and Mowen, 2000; Hershey et al., 2007a, 2010; Stawski et al., 2007; Koposko and Hershey, 2014; Koposko et al., 2016; França and Hershey, 2018).

Parental Influence and Retirement Savings

Parental influence on the lives of their children has been studied in several spheres. This influence is also found in financial planning for retirement, considering that acquisition of financial skills often begins with education on income management offered by parents (Grinstein-Weiss et al., 2012). Parental influence is therefore a measure used to quantify the effect that parents have on individual money management skills and on saving habits (Palaci et al., 2017). This is an important variable to be considered, mainly for the motivational force of enhancement, different from variable such as income and personality traits that are harder to change through external efforts (Koposko and Hershey, 2014).

In a study of Brazilian retirees, França and Hershey (2018) found a direct relationship between early life learning experiences and financial knowledge deriving from such experiences. These results suggest that, in Brazil, lessons about financial knowledge from parents early in life have a considerable and direct impact on individuals' financial knowledge. As financial knowledge has already been directly associated with level of activities undertaken in the direction of retirement planning, and this latter is directly related to retirement savings (Hershey et al., 2007a, 2010), parental lessons seem also to influence retirement savings. Based on these results, the first hypothesis was formulated:

> Hypothesis 1: Parental influence has a direct and positive relation with retirement savings.

Retirement Goal Clarity and Retirement Savings

Goals stimulate planning and help to anticipate the future, support the prior construction of experience perceptions, and allow individuals to set expectations about needs they will have when facing specific times (Petkoska and Earl, 2009). In the case of retirement, goals also play an important role. A clear retirement goal involves planning, and this requires effective savings actions (Stawski et al., 2007). This construct involves the act of thinking, discussing and establishing future goals, specifically those related with quality of life in retirement (Hershey et al., 2007b).

Previous studies verified that retirement goal clarity acts as antecedent of two main constructors: level of activity planning and financial knowledge (Hershey et al., 2007a,b; Stawski et al., 2007; Koposko and Hershey, 2014; Koposko et al., 2016). These two constructors, however, act as predictors for retirement saving, retirement contributions or saving adequacy. Based on these results, a relationship between retirement goal clarity

and retirement savings was hypothesized. In addition, studies have identified that parental influence acts as an antecedent of retirement goal clarity (Hershey et al., 2010; Koposko and Hershey, 2014). Understanding that retirement goal clarity acts as antecedent of retirement savings and consequence of parental influence, it was possible to hypothesize a mediator role of this variable.

> Hypothesis 2: Retirement goal clarity has a positive and direct relationship with retirement savings;
> Hypothesis 3: Retirement goal clarity mediates the relationship between parental influence and retirement savings.

Activities of Planning and Retirement Savings

The relationship between planning behaviors and personal savings practices has been confirmed for decades (Lusardi, 1999). As expected, the level of planning activity for retirement has already been confirmed to have a direct association with retirement savings, both in the perception of saving adequacy (Hershey et al., 2007b, 2010; França and Hershey, 2018) and effective savings contributions (Hershey et al., 2007a; Stawski et al., 2007). For this reason, planning activity is a measurement responsible for assessing the frequency of both information-seeking and effective planning activities that have occurred in the last 12 months (Hershey et al., 2010).

These activities involve a number of behaviors that stimulate knowledge about investments, and consequently, savings practices. Among these behaviors, those that we can emphasize are: searching for information, participating in lectures about the subject, and attending a retirement planning program (Stawski et al., 2007). Considering previous results that planning activity level was identified as a consequence of retirement goal clarity and antecedent of retirement savings (Hershey et al., 2007a,b, 2010; Stawski et al., 2007), a positive and direct relation and a moderating role of this variable were hypothesized.

> Hypothesis 4: Planning activity level moderates the relationship between retirement goal clarity and retirement savings.
> Hypothesis 5: Planning activity level has a direct and positive relation on the level of retirement savings.

MATERIALS AND METHODS

Participants

A total of 319 workers from the technical, treatment and administrative areas of a private hospital in the city of Niterói, Rio de Janeiro, Brazil, participated in this quantitative study. In this convenience sample, health workers were the selected population based on several criteria: (i) health workers have special rights for retirement (Brazil, 1991); (ii) there is a higher rate of occupational diseases among health workers, such as burnout syndrome (Moore and Cooper, 1996); (iii) health workers have greater ability to choose an autonomous career, which presupposes a different work regimen than that established for hired employees (Zoltowski and Teixeira, 2013).

The sample consisted of women with a mean age of 36, less than half of whom were married or in a stable relationship. The level of formal education of the sample was higher than Brazil as a whole, with most of participants having earned high school or higher degrees. The main area of work was nursing. Workload was high, between 37 and 45 h weekly, but their earning did not correspond to the level of education and workload, as the average earnings were up to four times the minimum wage. Their family incomes were, on average, ten times the minimum wage, and this income was shared with one or two dependents (**Table 1**).

Instruments

The questionnaire was designed using scales already applied in previous studies which tested the Hershey and Mowen (2000). The items were translated from English into Brazilian Portuguese, and the instrument was also semantically adapted to the Brazilian context. Translation into Brazilian Portuguese was conducted by two English-language teachers, one a retired public school English teacher and the other an English teacher currently teaching at a Brazilian federal university. The instrument was also revised by a Brazilian specialist in this field fluent in English.

Retirement Savings

The instrument measured individual retirement saving practices (Jacobs-Lawson and Hershey, 2005). It included five items, (i.e., "I make a conscious effort to save for retirement."). A Likert-type response format was used (1 = strongly disagree; 7 = strongly agree). Other studies found significant results, presenting a good Cronbach's alpha coefficient: 0.93 (Jacobs-Lawson and Hershey, 2005) and 0.79 (Hershey et al., 2010). In our sample, the Cronbach's alpha coefficient was 0.92 (M = 2.37; SD = 0.96).

Parental Influences on Saving

The instrument measured the effect of parental influence on money management and on creating a saving habit among their children (Koposko and Hershey, 2014). The instrument included six items (i.e., "Saving money for the future was an important lesson I learned as a child."). This was a Likert-type response format (1 = strongly disagree, 7 = strongly agree). Other studies found significant results, presenting a good Cronbach's alpha coefficient: 0.78 and 0.77 (Gutierrez and Hershey, 2014) and 0.86 (Koposko and Hershey, 2014). In our sample, the Cronbach's alpha coefficient was 0.87 (M = 3.09; SD = 0.97).

Retirement Goal Clarity

The instrument included an assessment of the act of thinking, discussing and setting future goals, specifically those related to quality of life in retirement (Hershey et al., 2007b). It included five items, (i.e., "I set up clear goals to become informed about retirement."). This was a Likert-type response format (1 = strongly disagree; 7 = strongly agree). Other studies found significant results, presenting a good Cronbach's alpha coefficient: 0.87

TABLE 1 | Sociodemographic description of the sample.

Variable	*N*	*M* (SD)	%
Age (in years)	319	36.2 (8.33)	
20–30	95		29.6
31–40	138		43.3
41–50	64		20.3
51–60	22		6.8
Gender			
Male	81		25.4
Female	238		74.6
Marital Status			
Married/In a stable relationship	174		54.5
Single/Divorced/Widowed	145		45.5
Occupational area			
Nursing	152		47.6
Administration*	89		27.9
Rehabilitation	16		5.0
Radiology	14		4.4
Pharmacy, Nutrition, Medicine	20		6.4
Other	28		8.8
Education			
Elementary school (complete/incomplete)	11		3.4
High school/technical (complete/incomplete)	107		33.6
Higher education (complete/incomplete)	117		36.7
Post-graduation (complete/incomplete)	84		26.3
Workload			
Up to 24 h a week	20		6.3
Between 25 and 36 h a week	61		19.1
Between 37 and 45 h a week	169		53
More than 45 h a week	69		21.6
Monthly personal income (R$)			
Up to 2 min. wages (up to R$ 1,908.00)	154		48.3
From 2 to 4 min. wages (R$ 1,908.01 to R$ 3,816.00)	107		33.5
From 4 to 10 min. wages (R$ 3,816.01 to R$ 9,540.00)	52		16.3
Above 10 min. wages (R$ 9,540.01)	6		1.9
Monthly family income (R$)			
Up to 2 min. wages (up to R$ 1,908.00)	51		16
From 2 to 4 min. wages (R$ 1,908.01 to R$ 3,816.00)	125		39.2
From 4 to 10 min. wages (R$ 3,816.01 to R$ 9,540.00)	106		33.2
Above 10 min. wages (R$ 9,540.01 to R$ 19,080.00)	37		11.6
Number of dependents	319	2.98 (1.17)	
No dependents	35		11
1 or 2 dependents	182		56.9
3 or 4 dependents	96		30.1
More than 5 dependents	6		1.9

*Min., Minimum; Max., Maximum. *Administration, Administration, Finance, Maintenance Engineering, Reception, Human Resources, and General Services.*

(Hershey et al., 2007b) and 0.87 (Koposko and Hershey, 2014). In our sample, the Cronbach's alpha coefficient was 0.83 (M = 2.95; SD = 0.84).

Retirement Planning Activity Level

The instrument measured both the frequency of searching for information and the level of effective planning activities that had occurred within the last 12 months (Hershey et al., 2010). It included four items (i.e., "I have informed myself about financial preparation for retirement."). This was a Likert-type response format (1 = strongly disagree, 7 = strongly agree). Other studies found significant results, presenting a good Cronbach's alpha coefficient: 0.84 (França and Hershey, 2018) and 0.84 (Hershey et al., 2010). In our sample, the Cronbach's alpha coefficient was 0.90 (M = 2.35; SD = 0.96).

Procedures

Data Collection

Questionnaires were made available in print to control shipment and facilitate the calculation of the response rate. The following strategies were used to gather results from 319 participants. First, the principal researcher contacted a large private hospital in the municipality of Niterói to introduce the project to the Human Resources coordinator; then, permission was requested to conduct the research within the institution. After receiving approval, the researcher remained in the hospital for several days to interview the employees in their workplace. Participants were interviewed using a printed and self-applied questionnaire distributed during their lunch time, as employees usually have lunch in the hospital). This approach was effective and guaranteed a fair degree of participants from the private sector, with a response rate of 87%.

Data Analysis

The database was analyzed to categorize variables and verify missing and outlier cases. Because it was the first application of the instrument in the Brazilian context, it was decided to verify the structure of the instruments and identify the best model. A confirmatory factor analysis (CFA) was therefore conducted.

To verify the existence of multicollinearity between latent variable, a Pearson correlation was used, and correlations were classified as low (between 0.10 and 0.29), moderate (0.30 and 0.49) and high (higher than 0.50), as suggested by Miles and Shevlin (2001). For a testing model, a structural modeling analysis was used for step-by-step analysis of the paths, starting from the direct effect between the independent variable and the dependent variable, and including the mediator and moderator variables using a variety of models (Vieira, 2009).

Analysis was performed using MPlus software version 6. The maximum likelihood estimator (ML) was used to maximize the probability that data were taken from the population. The adjusted chi-square, CFI, TLI, GFI, RMSEA and SRMR indexes were evaluated according to Byrne's (2001) recommendations related to well-adjusted models. In addition, the following criteria were considered evidence of satisfactory adjustment: CFI values close to 0.90, GFI close to 0.90, TLI close to 0.90 and RMSEA and SRMR close to or less than 0.08 (Byrne, 2001).

Ethical Procedures

This study was approved by the Ethics Committee of the Universidade Salgado de Oliveira on February 22, 2018, under

number CAAE 82650018.3.0000.5289. Prior to completing questionnaires, the participants signed the consent term, confirming their willingness to participate in the study. In this consent form, participants were also informed that their responses would be treated as confidential and that they were free to leave the study at any time.

RESULTS

Descriptive Statistics

The sample included 319 workers (238 women, 81 men) between 20 and 60 years of age, with a mean age of 36. The distribution of professionals by working area included a majority from nursing area (47.6%), followed by administration (18.2%). Remaining areas had low percentages, as described in **Table 1**.

The level of formal education ranged from incomplete elementary school to graduate studies. Workload varied from 25 to 45 h per week. Personal income was, on average, two to four times the Brazilian minimum wage. The majority of participants (66.5%) did not have a private pension or savings for retirement. The majority of participants were married or had stable relationships (54.5%), while the remainder (45.5%) were single, divorced or widowed.

Confirmatory Factorial Analysis

To confirm or exclude the factorial structure of the instrument created by Hershey and colleagues (Jacobs-Lawson and Hershey, 2005; Hershey et al., 2007a,b; Gutierrez and Hershey, 2014; Koposko and Hershey, 2014), we performed a CFA of the Retirement Saving, Parental Influence, Retirement Goal Clarity, and Retirement Planning Activity Level scales. The four instruments confirmed the unidimensional structure established by their creators, with good indexes of adjustment (CFI $>$ 0.96, TL I $>$ 0.92, RMSEA $<$ 0.14, SRMR $<$ 0.03), as observed in **Table 2**. All items were maintained in the instruments, with factorial loads above 0.60, as shown in **Table 3**, which presents the alpha, means and standard deviations of scales, their items, and their respective factorial loads.

TABLE 2 | Adjust indexes and adjust of factorial load of items of the scales (n = 319).

Adjust indexes	χ2 (gl)	CFI	TLI	RMSEA	SRMR
Retirement Saving Scale (RS)	36,478(5)	0.97	0.95	0.14	0.02
Parental Influences on Saving Scale (PI)	48,461(9)	0.96	0.93	0.12	0.03
Retirement Goal Clarity Scale (GC)	29,449(5)	0.96	0.92	0.12	0.03
Retirement Planning Activity Level Scale (PA)	5,972(2)	0.99	0.99	0.08	0.01

TABLE 3 | Descriptive data (Factorial loads, means, standard deviation, alpha).

	F1	M	SD
Retirement Saving Scale (RS) (α = 0.92)		2.37	0.96
I have made meaningful contributions to a voluntary retirement savings plan.	0.77	2.31	1.10
Relative to my peers, I have saved a great deal for retirement.	0.85	2.41	1.10
I have accumulated substantial for retirement.	0.88	2.29	1.05
I have made a conscious effort to save for retirement.	0.89	2.41	1.09
Based on how I plan to live my life in retirement, I have saved accordingly.	0.83	2.44	1.12
Parental Influences on Saving Scale (PI) (α = 0.87)		3.09	0.97
Saving money for the future was an important lesson I learned as a child.	0.62	3.17	1.26
My parents did a good job of planning and saving for their own retirement.	0.71	2.70	1.18
My parents would expect me to save for retirement.	0.74	3.08	1.26
Growing up, my parents helped me to imagine situations when I might need extra money to fall back on.	0.74	2.93	1.26
My parents made sure that I understood the value of money and that money is a limited resource.	0.79	3.48	1.23
My parents suggested to me concrete ways to save money on my own.	0.81	3.18	1.19
Retirement Goal Clarity Scale (GC) (α = 0.83)		2.95	0.84
I set clear goals for gaining information about retirement.	0.77	2.89	1.03
I have thought a great deal about quality of life in retirement.	0.68	3.41	1.10
I set specific goals for how much will need to be save for retirement.	0.80	2.67	1.04
I have clear vision of how life will be in retirement.	0.72	2.80	1.05
I have discussed retirement plans with spouse, friend or significant other.	0.61	3.00	1.22
Retirement Planning Activity Level Scale (PA) (α = 0.90)		2.35	0.96
Calculations have been made to estimate how much I have to save to retire comfortably.	0.72	2.33	1.08
I frequently read books, brochures, or surf the web to learn about retirement planning.	0.80	2.20	1.06
I have informed myself about the level of future pension benefits.	0.88	2.52	1.16
I have informed myself about financial preparation for retirement.	0.93	2.35	1.08

Model Testing

Initially, an existing correlation between latent variables was observed and it was noticed that VME values were, in the majority, higher than coefficient of determination (r^2) between latent variables (i.e., VME > r^2). These results indicated the lack of multicollinearity, with the exception of multicollinearity found between Planning Activity Level and Retirement Saving, and Planning Activity Level and Goal Clarity (**Table 4**). Next, the influence of gender variables, marital status, age and family income on the dependent variable was observed. Considering that the age and the family income had an influence on retirement savings, they were controlled in the models described below.

First, a model that did not include the mediator or moderator variables was tested to verify the effect of parental influence on retirement savings (Hypothesis 1), followed by a model with the goal clarity level as a mediator (Hypothesis 2 and 3). To test hypothesis 4, one moderated-mediation model was tested. In this model, goal clarity mediated the relationship between parental influence and retirement savings, and planning activity was a moderator of the relationship between parental influence and goal clarity. Results showed that moderation was not significant ($\beta = 0.10$, $p = 0.09$).

Finally, a fourth model was checked, considering the goal clarity level as a mediator of the relationship between parental influence and retirement saving, and the direct effect of planning activity on retirement savings (Hypothesis 5). This model presents the mediation effect and a significant effect of this variable on the dependent variable ($\beta = 0.19$). All of these models can be observed in **Table 5**.

These data allow us to conclude the existence of a partial mediation of the relationship between parental influence and retirement savings, since the significant effect among the variables was reduced when the variable goal clarity was included in the model. In addition, planning activity represents a strong effect on retirement saving. This model presented good adjustment indices, despite the high residual value, [$\chi 2$ (gl) = 605.127 (165); CFI = 0.896; TLI = 0.880; RMSEA = 0.092; SRMR = 0.144]. Hypotheses 1, 2, 3, and 5 were thus confirmed. The final model is described in **Figure 2**.

DISCUSSION

This study investigated health workers in order to understand their perception about financial planning for retirement, as well as how these are related to psychological, social and economic factors involved this process. A study model (**Figure 1**) sought to explain retirement savings behaviors based on three antecedents: parental influence, retirement goal clarity, and retirement planning activity level.

It was observed (**Table 3**) that means found in total score ranged from 2 and 3, and that the sample studied was within or below the mean, with regard to financial planning for retirement. Low means obtained in scales can be interpreted as indicating a significant lack of knowledge about financial planning among Brazilians. This assessment may be skewed by the mean age of the participants (M = 36.2; SD = 8.33). Because the participants were relatively young, they may not have given much thought to retirement.

However, there is no doubt that more knowledge is needed with regard to Brazilians' financial planning for retirement. The more this topic is studied, the clearer the picture becomes regarding the Brazilian population's familiarity with financial planning. These results support existing demands for development of more strategic actions on this topic (França and Hershey, 2018). Further study is also needed among public sector workers to compare behavior changes with respect to financial planning for retirement between workers in the public and private sectors and the invariance of this model.

It is generally known that financial planning for retirement is a complex process, in which several factors play an important role in predicting and constructing effective savings behaviors for this stage of life. As a whole, the scale chosen to evaluate the dependent variable (retirement saving behaviors) as well as

TABLE 4 | Correlation between latent variables (below diagonal) and coefficient of determination (above diagonal) (n = 319).

	VME	RS	PI	GC	PA
Retirement Saving Scale (RS)	0.71		0.16	0.49	0.56
Parental Influences on Saving Scale (PI)	0.49	0.40*		0.12	0.06
Retirement Goal Clarity Scale (GC)	0.51	0.70*	0.35*		0.55
Retirement Planning Activity Level Scale (PA)	0.70	0.75*	0.24*	0.74*	

*$p < 0.05$.

TABLE 5 | Non-standardized coefficient Effects of interaction between variables in four models (n = 319).

	RS on PI [β(SE)]	RS on GC [β(SE)]	GC on PI [β(SE)]	PA on GC*PA [β(SE)]	RS on PA [β(SE)]
Model 1	0.452(0.085)*	–	–	–	–
Model 2	0.210(0.063)*	0.665(0.092)*	0.347(0.074)*	–	–
Model 3	0.212(0.054)*	0.287(0.067)*	0.374(0.070)*	0.093(0.055)^{ns}	–
Model 4	0.219(0.059)*	0.280(0.078)*	0.344(0.073)*	–	0.591*(0.086)

RS, Retirement Saving; PI, Parental Influence; GC, Goal Clarity; PA, Planning Activity. $p < 0.001$; ^{ns} non significance.

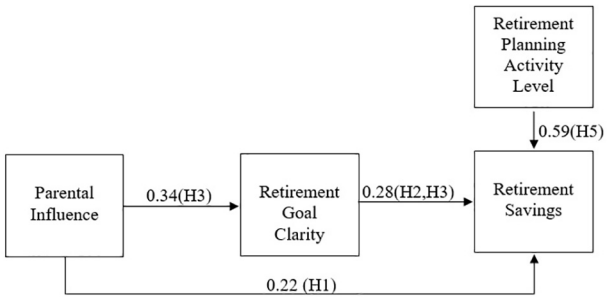

FIGURE 2 | Financial Planning for Retirement Model with found effects (β).

the three antecedents (parental influence, retirement goal clarity and planning activity level) revealed good psychometric indices, which is consistent with results found in previous studies that adopted the same scales (Jacobs-Lawson and Hershey, 2005; Hershey et al., 2007b; Stawski et al., 2007; Hershey et al., 2010, Gutierrez and Hershey, 2014; Koposko and Hershey, 2014, Koposko et al., 2016; França and Hershey, 2018).

Our first hypothesis was confirmed, since parental influence had a significant direct effect on the level of savings for retirement, before other variables were included in the model. The habit of saving, originated in the family, influences the construction of attitudes and behaviors over the course of a person's lifetime. For this reason, it seems that parents have a crucial role in this process (Grinstein-Weiss et al., 2012). The confirmation of this hypothesis, therefore, attests that significant parental influence increases the chances that an individual will save for retirement (Gutierrez and Hershey, 2014; Koposko and Hershey, 2014; Koposko et al., 2016). Since this is a more likely antecedent to be accessed and improved, the confirmation of parental influence on financial skills and retirement savings, actions and strategies is paramount for financially responsible behavior in preparation for retirement (Koposko and Hershey, 2014; Palaci et al., 2017; França and Hershey, 2018).

Our second hypothesis was also confirmed, in that goal clarity represented a positive influence on retirement savings. Retirement goal clarity is an important psychological predictor of retirement planning that is developed during adulthood and motivates the individual to plan for the future (Stawski et al., 2007; Petkoska and Earl, 2009). This relationship has been observed in previous studies and is thus reinforced by the Brazilian context: greater retirement goal clarity is associated with more effective retirement savings behaviors (Koposko and Hershey, 2014; França and Hershey, 2018). This result was considered important because these goals are not fixed characteristics of the personality, but they can be developed with interventions aimed at planning for retirement (Hershey et al., 2007a; Petkoska and Earl, 2009; Koposko et al., 2016).

In addition to the positive influences found by both parental influence (Koposko and Hershey, 2014) and goal clarity (Stawski et al., 2007) with regard to retirement savings, it was also observed that clarity of goals mediated the relationship between parental influence and retirement savings. This confirmed our third hypothesis. This relationship means that the effect of parental influence on savings for retirement diminished when goal clarity was included in the model, and it better explains the dependent variable. This result can be interpreted as the probable parental influence on the creation of specific goals for retirement (Koposko et al., 2016) to influence saving behavior.

On the other hand, the fourth hypothesis, related to the moderating effect of the level of planning activity between goal clarity and retirement savings, was not confirmed. In contrast to the findings reported in a previous study (Stawski et al., 2007), in which goal clarity had an indirect influence on retirement savings through planning activities, our study could not confirm this relationship.

Considering that the planning activity level represented an influence on the level of retirement savings, the fifth hypothesis was confirmed. The degree to which an individual engages in retirement planning activities has a direct and positive relationship on the individual's adoption of a retirement saving behavior. As reported in previous studies, the adoption of planning behaviors is associated with higher levels of personal saving practice (Lusardi, 1999; Stawski et al., 2007; França and Hershey, 2018). In psycho-motivational models that were already tested, the antecedents exercise both a direct and indirect influence on the final saving behavior for retirement. Among these relationships, the retirement planning activity level correlates with retirement saving (Stawski et al., 2007; Hershey et al., 2010; França and Hershey, 2018). It is possible to conclude that by engaging in retirement planning activities, an individual performs the first planning step and then tends to continue with saving behavior in an effective way.

The results of this study describe important contributions related to Brazilian behaviors regarding financial planning for retirement. Findings have reported the importance of financial planning, which should start as early as possible. Financial necessity is one of the factors that prevent people from retiring, in addition to the financial aspects be considered one of the main losses in retirement. Therefore, financial planning has a role in making retirement possible, reducing its perception of loss (Petkoska and Earl, 2009; Heraty and McCarthy, 2015).

The role of government as the sole source of financial support during a citizen's retirement has been increasingly questioned worldwide. Consequently, this responsibility to guarantee comfort in this stage of life is now transferred to the individual, which reinforces the importance of our study by broadening the understanding of this complex phenomenon to establish financial planning for retirement (Yusof and Sabri, 2017).

In addition to the results already found in the previous Brazilian study on financial planning for retirement (França and Hershey, 2018), our findings show an untested mediating relationship in this process. All of the relationships found indicate that parents play a crucial role in encouraging saving behaviors. Our findings also highlight the issue concerning individual responsibility and the behavior required to achieve a desired level of financial comfort during retirement. These aspects can guide interventions to educate people, raise awareness, reinforce and reverse their behaviors with regard to financial planning for retirement (Gutierrez and Hershey, 2014;

Koposko and Hershey, 2014). Intercultural and cross-cultural studies are warranted to observe whether the mediating and moderating functions can also be confirmed in other contexts.

Our study has some limitations. First, the sample was limited to workers in a single private health care facility in the municipality of Niterói, Rio de Janeiro, Brazil. Therefore, the results cannot be extrapolated to other population outside Brazil. The fact that the majority of the sample was composed of workers aged 20 to 40 years is another limitation, since older workers tend to be more involved with planning for retirement especially in Brazil, where there is no culture of long-term planning (França et al., 2017). Despite this, the few existing studies, generally performed with older workers or retired people, demonstrate the low level of preparation even when retirement is approaching (França and Vaughan, 2008; França and Soares, 2009).

The existence of other antecedents responsible for influencing the complex process of financial planning for retirement needs to be emphasized. In future studies, the new relationships of variables can be tested. In addition, other populations should be investigated, considering that our study included only health workers. Our hypotheses highlight the need to better understand the role of planning activities in the model studied. Longitudinal studies are also recommended to measure the effectiveness of actions designed to develop skills related to financial planning for retirement.

The lack of depth of psychological understanding of the reasons related to developing a financial plan for retirement opens up a range of potential studies in this subject. Because of the complexity of issues involved in retirement planning, simply promoting a lecture or a short workshop is not sufficient for people to understand how to manage their investments, especially when they are approaching retirement.

Retirement Preparation Programs constitute an attempt to help workers to develop life projects, and these programs are supported by the recommendation of the Brazilian Statute of the Elderly (Brazil, 2003). In addition, financial literacy is beginning to gain ground in schools, mainly after the implementation of the National Financial Education Strategy (ENEF) (Brazil, 2010), which may help to introduce financial planning behavior early in people's lives. To contribute to such initiatives, studies, especially longitudinal ones, are warranted to identify factors that influence the adoption of financial planning for retirement. All these efforts can offer suggestions for future interventions and improvements to existing ones.

We expect that the results of this study can help improve our understanding of factors that influence Brazilians workers from the private health sector with regard to their financial planning for retirement. Strategies and interventions must be created to improve and even reverse the current lack of planning for retirement in Brazil, which seems to be a common behavior requiring immediate action (Triandis, 1995; Hofstede et al., 2010). This initiative also expects to inspire more studies on this topic, including workers from the public sector and other areas with the aim of extending this important and relevant topic in our society.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of Health National Council - CNS, no. 466 and the Ethical Committee of University Salgado de Oliveira with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the University Salgado de Oliveira Committee under the number 82650018.3.0000.5289.

AUTHOR CONTRIBUTIONS

TS designed the study and collected the data. LF designed the study. All authors analyzed the data and wrote the manuscript.

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Age-Diversity Practices and Retirement Preferences Among Older Workers: A Moderated Mediation Model of Work Engagement and Work Ability

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To meet the demographic changes, organizations are challenged to develop practices that retain older workers and encourage them to postpone retirement. The purpose of this paper is to examine the role of human resources (HR) practices in retirement preferences of older workers. Drawing on theories on lifespan development and social exchange, we suggest that organizations can facilitate longer working lives by implementing bundles of HR practices that are sensitive to age-related changes in workers' skills, preferences, and goals – i.e., age-diversity practices. We posit that age-diversity practices are positively related to work engagement that, in turn, relates to the preference for retiring later. We further suggest that work ability moderates the relationship between age-diversity practices and work engagement. Finally, we propose a moderated mediation model in which the mediated relationship is moderated by work ability. A sample of 232 older Portuguese workers completed a questionnaire. Hypotheses were tested by using structural equation modeling (SEM). Findings show that work engagement completely mediates the relationship between age-diversity practices and the preference for early or late retirement. Moreover, this mediating relationship is more important for those workers who experience low work ability. Results further demonstrate that the effect of age-diversity practices on the preference for retiring later via work engagement is stronger for lower levels of work ability. This study highlights the organizational role in promoting longer and healthier working lives through the implementation of age-supportive HR practices.

Keywords: retirement, older workers, age diversity, work engagement, work ability, retirement preferences, HRM, age-diversity practices

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INTRODUCTION

People are living longer today than ever before, while fertility rates are dropping and life expectancy is increasing worldwide. In 2017, 12.7% of the world population was 60-year-old or over and this share is projected to reach 21.3% in 2050 (United Nations [UN], 2017). In Portugal, individuals aged 65 years or over will become a much larger share, rising from 21% (2016) to 35% (2070) of the population (European Commission, 2017).

As the population ages, so will the workforce. While young people tend to enter the labor force later due to longer schooling, older individuals have increased their participation in the labor market, contributing to a graying workforce (Alley and Crimmins, 2007; European Commission, 2017). However, despite that, the working-age population will shrink, as the number of younger workers entering the labor market is insufficient to replace those who are retiring (Burke and Ng, 2006; Chand and Tung, 2014). In the European Union (EU), the working-age population renewal ratio was below 100 in 2013, with 97 people aged 20 to 29 years per 100 people aged 55 to 64-year-old (Statistics Portugal, 2015). According to Statistics Portugal (2015), in 2013, Portugal was the third country in the EU-28 with the lowest working-age population renewal ratio (86 people aged 20–29 years per 100 people aged 55–64-year-old).

Demographic aging is a major challenge to which societies should respond: slower economic growth, poverty among the elderly, unsustainable pension systems, unequal distribution of saving and purchasing power, threats to the system of intergenerational reciprocity, increased costs with health care systems, and the aging and shrinkage of the labor force (Chand and Tung, 2014; Kulik et al., 2014; Nagarajan et al., 2016). In general, the aging population places intense pressure on national budgets, leading governments to implement policy changes to increase the participation rate of older workers and prevent an early exit from the workforce (Naegele and Krämer, 2002; Mahon and Millar, 2014). Some countries opted for increasing the eligible age for early and statutory retirement (e.g., Italy, Portugal, Sweden), introducing an automatic link between retirement age and life expectancy, while others opted to abolish the mandatory age for retirement for most of the occupations (e.g., Canada, United States) (Flynn, 2010; Solem et al., 2016). For example, in 10 countries of the Organization for Economic Co-operation and Development (OECD) the pensionable age is 65 years for both men and women, and in eight countries is more than 65 years (Organization for Economic Co-operation and Development [OECD], 2017).

Governments' strategies to stimulate older people to stay in the workforce until higher age are designed and implemented at a societal level (i.e., public policies) but organizations are also called upon to participate in the promotion of fuller and longer working lives. From the organization's perspective, the extension of working careers is crucial to cope with the expected decrease in the labor supply, ensuring their future competitiveness and sustainability (Conen et al., 2014). Labor and skills shortages require organizations to develop human resources (HR) strategies that are settled in a resource-based view: to retain the best talents and to attract and recruit valuable older workers available in the labor market (Wright et al., 2001). Therefore, organizations should assume a proactive stance to workforce aging and implement an age management strategy that encompasses analyzing the organizational HR structure (actual and desirable), including age diversity, evaluating older workers' interests and needs, and developing age-sensitive HR practices (Walker, 1999; Vendramin et al., 2012). This approach requires the organization to be aware of workers' abilities and preferences regarding retirement in order to implement HR practices that retain those workers who are able to perform their job and that are motivated at work and to work (Kanfer et al., 2013).

Previous investigations have examined the relationships between HR practices and retirement, showing that human resources management (HRM) can be a mechanism to prevent early retirement and to motivate older workers to work beyond retirement (e.g., Zappalà et al., 2008; Herrbach et al., 2009; Potočnik et al., 2009; Bal et al., 2012; Pak et al., 2019). However, the impact of HR practices on retirement intentions and behaviors has not been completely clarified, and the processes involved in this relationship are not yet fully understood. Thus, in this study we examine the impact of age-diversity practices on the preference for early or late retirement via work engagement, and seek to determine if this mediated relationship is moderated by work ability.

This study contributes to the literature by examining the role of age-diversity practices, a novel construct in the literature, in predicting the preference for early or late retirement. Age-diversity practices are perceived age-aware HR practices and policies that support and promote the development of workers of all ages (Walker, 1999; Boehm et al., 2014). We argue and demonstrate that such practices relate to a preference for late retirement through higher levels of work engagement. Furthermore, this study adds to the retirement literature, in particular to the field of work-related predictors of retirement, by proposing and showing work engagement as an important antecedent of the preference for late retirement. Finally, the moderated mediation model was tested through structural equation modeling (SEM), which allows researchers to better control for errors and obtain a more accurate model.

Retirement in the Portuguese Context

The Portuguese retirement system consists of a mandatory state pension scheme administered by the Social Security organization for the private sector and the General Retirement Fund for the public sector. Individuals qualify for an old-age pension (i.e., retirement pension) based on their age and on their contributions to the social security system, which are proportional to their income. In recent years, due to the need for reducing the expenditure with the social security system, one of the major pension reforms in Portugal was linking the retirement age to life expectancy at 65-year-old (Decree-Law No. 167-E/2013). Currently, individuals must be 66 years and 5-month-old (Ordinance No. 50/2019) and have paid social security contributions for at least 15 calendar years to access the full old-age pension. In 2018 the average retirement age was 64.2-year-old, 63.4-year-old for men and 64.2 for women (PORDATA, 2019b), slightly below the statutory retirement age.

Early retirement is possible without penalties if individuals are 60-year-old and have made contributions for at least 40 years (Decree-Law No. 119/2018). Otherwise, individuals will have a penalization of 0.5% for each month of anticipation in relation to the statutory retirement age, and an additional cut of 14.67% that corresponds to the sustainability factor defined for 2019 (Ordinance No. 50/2019). Despite the penalizations, the old-age pension is still available for those workers that opt for early retirement. In 2018, 152.197 individuals were receiving

anticipated old-age pensions (PORDATA, 2019a). Therefore, workers can decide to retire at the statutory retirement age, before (i.e., early retirement) or after that age.

Theoretical Background and Research Hypotheses

Research interest in the extension of working lives has been growing in recent years. Researchers in many fields, including for example, economics and management, have focused on investigating the impacts of an aging workforce (Börsch-Supan, 2000; Kulik et al., 2014; Vasconcelos, 2015). In the HRM literature several researchers propose that organizations can take advantage of their new age structure through HR practices and policies (e.g., Kooij et al., 2008; Truxillo et al., 2015; Nagarajan et al., 2019). Previous research challenged the universality of HRM showing that work-related motives and attitudes change with age, and that there are HR practices that can especially fit older workers' needs and preferences (Ng and Feldman, 2010; Armstrong-Stassen and Schlosser, 2011; Kooij et al., 2011; Pinto et al., 2014; Kim and Kang, 2017).

In this sense, this study proposes age-diversity practices as a strategy to retain older workers in the workforce at their best performance level and in a sustainable manner. Age-diversity practices refer to workers' perceptions that HR practices are inclusive and non-discriminatory for individuals of all ages, as well as sensitive to age-related changes in workers' skills, preferences and goals (Walker, 1999; Kunze et al., 2013; Boehm et al., 2014). Through the implementation of these practices, organizations communicate their purpose of promoting and maintaining an age-diverse workforce. Age-diversity practices can be understood in the light of lifespan development theories (Baltes et al., 1999). According to these theories, aging is a process of changes (e.g., physical, cognitive) that encompasses both gains and losses, and requires a remarkable individual adaptive capacity to cope with such changes (Kanfer and Ackerman, 2004; Truxillo et al., 2015). As a result of facing different changes throughout life, as people grow older, they accumulate different personal experiences, which results in more heterogeneity or differentiation within a cohort group (i.e., interindividual differences) (Kanfer and Ackerman, 2004; Carstensen, 2006). Hence, the group of older workers presents a great diversity in terms of work-related values, preferences, and interests. Age-diversity practices, understood as age-supportive HR practices, may fit different types of older workers (Truxillo et al., 2015).

Age-diversity practices focus on workers' perceptions since there is often a discrepancy between intention and practice in HRM. In fact, previous research shows that there is a clear distinction between the organizational practices that are formulated and intended by managers and the way they are perceived by workers when implemented, leading researchers to argue that it is important to understand how workers perceive HR practices in order to examine the influence of such practices on workers' attitudes and behaviors (Truss, 2001; Khilji and Wang, 2006). According to signaling theory, organizational practices and policies are interpreted by workers as signals of the organizations' intentions toward them (Rynes, 1991; Casper and Harris, 2008). More specifically, HR practices emit signals of organizational interest in workers that they may interpret as perceived organizational support, facilitating the individual attachment to the organization (Den Hartog et al., 2004; Casper and Harris, 2008). Following this reasoning, HRM should create, communicate, and implement age-diversity practices to inform workers that the organization is willing to invest in the development of their potential, regardless of their age, and to maintain a long-term relationship with them.

The implementation of age-diversity practices requires the organization to assume a proactive stance in hiring, promoting, and retaining workers of all ages, and also educating managers about leading age diverse workforces (Walker, 2005; Boehm et al., 2014; Rego et al., 2017). More precisely, age-diversity practices are combinations of HR practices (i.e., HR bundles) that are age-sensitive but do not target a specific age-group, and include recruitment and selection, development and promotion, performance evaluation, work adjustment, and recognition. Furthermore, age-diversity practices are designed to create an environment where all workers, regardless of their age, can fit it and be accepted, which makes the organization attractive to future candidates. Due to their flexibility, these practices can cope with the great complexity of the different needs and goals of an age-diverse workforce, as well as remove potential age barriers.

A recent work from Kooij et al. (2014) distinguished four bundles of HR practices that potentially help to retain older workers: development, maintenance, utilization, and accommodative practices. Age-diversity practices aggregate these four bundles of HR practices, as they aim to fulfill workers' needs by helping to improve and sustain workers' ability, motivation, skills, attitudes, and behaviors (Kuvaas, 2008; James et al., 2011; Bal et al., 2013; Kooij et al., 2014).

Development practices refer to organizational measures that help individuals to grow and achieve higher levels of functioning, such as training and promotion (Zaleska and de Menezes, 2007; Kooij et al., 2014). Likewise, age-diversity practices are aimed at increasing older workers' ability and motivation to work by offering opportunities to develop and apply new skills and knowledge, and also to be recognized for them. Maintenance practices are HR practices that seek to maintain older workers' levels of functioning in the face of age-related changes (e.g., flexible work schedules) (Kooij et al., 2014). Age-diversity practices support individuals in their efforts to maintain their current levels of functioning in the face of new challenges by proposing a fair and adequate performance evaluation, which generates important feedback and thoughtful management of workers' needs (e.g., health, skills) over time. These measures have a preventive nature and can include, for example, ergonomic adjustments or health check-ups. Utilization practices are conceptualized as those practices that, following a loss, help individuals to utilize already existing resources (e.g., experience) (Kooij et al., 2014). Similarly, when workers face a loss in their resources, age-diversity practices are aimed at recovering workers' previous levels of functioning to ensure they will be able to perform their tasks. For instance, by valuing and recognizing workers' experience at work (e.g., job mobility) or redesigning the job, age-diversity practices can remove highly

demanding tasks that become impossible to perform and replace them with other tasks that are achievable with existing resources. Finally, accommodative practices refer to those practices that aim to meet workers' needs by reducing their demands and help them to perform well at low levels of functioning when maintenance or recovery is no longer possible (e.g., decreases in physical workload) (Bal et al., 2013; van Dalen et al., 2015). Age-diversity practices can accommodate lower levels of functioning mainly by focusing on the adaptation of the job to workers' needs over time, which demands attentive monitoring and follow-up by direct managers.

In a nutshell, if workers perceive the existence of age-diversity practices in their organization, they will perceive that there are HR practices that support their developing needs (i.e., development), that help them to maintain their current levels of functioning (i.e., maintenance), that make use of their existing experience, knowledge, and skills (i.e., utilization), and that help them to function well at lower levels of functioning (i.e., accommodative).

In this manuscript, we argue that the existence of such practices will be a signal to older workers that the organization is interested in retaining them. In response, workers will provide a return on the organization's investment by showing increasing levels of work engagement that will result in a preference for late retirement. Furthermore, this relationship will be especially important for those older workers experiencing lower levels of work ability, since they feel less capable of performing their job and of remaining in the workforce for longer.

Age-Diversity Practices and Work Engagement

Age-diversity practices can be perceived by workers as a signal of organizational appreciation of their work. Therefore, drawing from social exchange theory (SET) (Blau, 1964; Cropanzano and Mitchell, 2005), it is possible to expect that this investment will be reciprocated by workers through increased work engagement. Work engagement has been conceptualized as a positive work-related state of fulfillment, characterized by vigor (i.e., high levels of energy while working, willingness to invest effort in work, and persistence in the presence of difficulties), dedication (i.e., strong involvement in work, and experiencing a sense of enthusiasm, inspiration, and pride), and absorption (i.e., high levels of concentration and positive engrossment in work, such that time passes quickly) (Schaufeli et al., 2002; Bakker et al., 2008).

The central premise of SET is that the exchange of resources is a fundamental form of human interaction (Cropanzano and Mitchell, 2005). Blau (1964) argues that social exchanges are voluntary actions of individuals that act in favor of another party with the expectation that such action will be reciprocated in the future. Based on this idea of reciprocal interdependence, organizational literature suggests that beneficial actions from organizations to workers contribute to the development of an expectation of some future contributions in return (Settoon et al., 1996). The implementation of organizational practices and policies, such as age-diversity practices, may create a general perception among workers that the organization values their contributions and cares for their health and well-being. If workers perceive that organizations value them and treat them fairly, they will likely reciprocate with vigor, dedication, and absorption in their work.

Age-diversity practices can foster workers' learning and development, leading workers to reach higher levels of functioning, and therefore providing a return to the organization through increasing levels of work engagement (Bakker, 2011; Bal et al., 2013). For instance, an older worker who is included in the training about the new software will be more intrinsically motivated at work, and consequently more engaged in his/her work. Also, age-diversity practices can create adequate working conditions to help individuals meet job demands through different strategies, leading to more positive experiences at work, and therefore to an increasing self-invest in their work (Christian et al., 2011). Anticipating potential health-related changes, such as musculoskeletal disorders, the organization can, for example, redesign some physical aspects of the job by offering an adjustable table and chair, or provide training about injury prevention.

The relationship between age-diversity practices and work engagement can be understood as a social exchange between the worker and the organization that has benefits for both parties. Based on this idea, we expect that if an organization creates and implements age-diversity practices, workers will display higher levels of work engagement. In line with previous research, age-diversity practices are expected to relate to workers' engagement. Therefore, we propose that:

> Hypothesis 1: Age-diversity practices are positively related to work engagement.

Age-Diversity Practices, Work Engagement and the Preference for Early or Late Retirement

Age-diversity practices can be a mechanism to encourage older workers to postpone retirement. SET is a relevant theoretical rationale to explain the relationship between age-diversity practices and the preference for late retirement. A basic principle of SET is that the relationship between the organization and the worker evolves over time into a long-term commitment based on trust and loyalty, as long as the parties comply with the reciprocity rule (Cropanzano and Mitchell, 2005). Therefore, from the social exchange perspective, organizations show interest in satisfying workers' needs and interests by implementing age-diversity practices, and workers reply reciprocally with favorable behaviors toward the organization by retiring later.

Retirement has been conceptualized as a dynamic and complex process that occurs over time and involves different factors, such as individual attributes, family aspects, job and organizational factors, or the socioeconomic context (Fisher et al., 2016; Scharn et al., 2018; Topa et al., 2018). In an attempt to understand the organizational role in the retirement decision-making process, research has identified several work-related antecedents that affect retirement, including organizational commitment (Adams and Beehr, 1998), attitudes toward work (Desmette and Gaillard, 2008), workplace timing for retirement (Feldman, 2013), and job-related stress (Wang et al., 2008).

Also, the influence of HR practices in the retirement decision-making process has been extensively studied (Saba and Guerin, 2005; Herrbach et al., 2009; Potočnik et al., 2009; Lee et al., 2017). Similarly, it is expected that age-diversity practices influence retirement preferences. More specifically, we argue that if workers perceive that their organizations are developing and implementing age-diversity practices, they will likely prefer to retire later.

Despite the growing interest for research in this topic, there are still several questions to be addressed regarding the processes involved in the link between HR practices and retirement. This study proposes that work engagement is a psychological consequence of age-diversity practices and that it is a psychological antecedent of the preference for early or late retirement. In fact, research suggests that work engagement has many positive outcomes for both workers and organizations, such as job satisfaction (Saks, 2006), higher organizational commitment (Scrima et al., 2014), higher organizational performance (Christian et al., 2011), and lower intention to quit (Schaufeli and Bakker, 2004). These findings suggest that an engaged workforce can help organizations to retain their best talent (Scrima et al., 2014). Engaged workers indeed have high levels of energy, are enthusiastic about their work, and are often fully immersed in their job, so that time passes quickly. Therefore, engaged workers are intrinsically motivated to participate in the workforce, to accomplish their tasks at work, and to delay the exit from the workforce (Kanfer et al., 2013; Bentley et al., 2019). Recent evidence from de Wind et al. (2017) suggests that older workers who followed a steady low work engagement trajectory in the preceding 3 years were more likely to retire early in comparison with those who followed a steady high work engagement trajectory.

In accordance with SET, we argue that age-diversity practices, perceived by workers as an organizational investment in them, induce workers to reciprocate through increasing levels of work engagement that, in turn, will lead to a desire to retire later. Conversely, when the organization fails to offer age-diversity practices, workers are more likely to disengage themselves from the work role and leave the organization earlier through retirement. In this study, and in line with previous research, work engagement is expected to mediate the effect of age-diversity practices on the preference for early or late retirement. Therefore, we argue that:

> Hypothesis 2: Work engagement mediates the relationship between age-diversity practices and the preference for early or late retirement.

The Moderating Role of Work Ability

Work ability has been an emerging topic in the literature on aging and work (Morelock et al., 2017; Cadiz et al., 2018). Although there are different conceptualizations of work ability, in this study it is defined as an individual's self-assessment about the degree to which he or she has personal resources to meet the demands of work (McGonagle et al., 2015). Individuals experiencing high levels of work ability perceive themselves as having the functional capacities (mental, physical, and social resources) and individual health, competence, attitudes, and values to successfully manage and perform the work tasks (Tengland, 2011; Ilmarinen and von Bonsdorff, 2016). On the contrary, workers who perceive that their resources are not adequate to meet the job requirements are experiencing low work ability.

Earlier research demonstrates that work ability is influenced by individual (e.g., gender, personality) and work-related (e.g., organizational practices, physical and mental demands) factors (Tuomi et al., 2004; McGonagle et al., 2015). Therefore, organizations can play an important role in promoting the work ability of their workers. In line with selection, optimization, and compensation (SOC) theory (Baltes and Baltes, 1990), organizations can implement practices that help older workers to cope with age-related losses that will probably affect their ability to meet job requirements. Such practices can help to reduce the gap between individuals' abilities and job demands by allowing the use of SOC strategies that maximize gains and minimize losses. For example, coworker and supervisor support (Mazloumi et al., 2012), decreased work demands (Tuomi et al., 2004), and effort-reward balance (Fischer and Martinez, 2012) can contribute to better work ability among older workers. In addition to the extensive body of research examining work ability as an outcome, there are also several studies investigating work ability as a predictor. Tuomi et al. (2001) suggest that workers experiencing good work ability are more likely to produce high quality work, to achieve higher levels of productivity, and to enjoy staying in the job. Therefore, good work ability is associated with positive work-related outcomes that are beneficial for the organization.

Previous research also shows that work ability is positively associated with work engagement (Airila et al., 2012; Rongen et al., 2014). Although work engagement is usually identified as an antecedent of work ability, some researchers acknowledge that this relationship may be reciprocal (Cadiz et al., 2018). Engagement encompasses high levels of vigor, dedication, and absorption, and it is likely that work ability influences the extent to which people are able to be involved in their work while demonstrating high levels of energy, enthusiasm, and concentration. Thus, different levels of work ability can moderate the positive impact of age-diversity practices on work engagement.

Based on these arguments, it is expected that older workers who perceive low work ability will attribute more importance to the role of age-diversity practices in retirement. Because older workers with low work ability perceive that they possess less functional capacity to meet job demands, they are more likely to perceive that age-diversity practices will facilitate their engagement. On the contrary, workers experiencing high work ability will feel more capable of performing their tasks and perceive age-diversity practices as less important for them to be fully engaged in work. Accordingly, this paper proposes that the relationship between age-diversity practices and work engagement is moderated by work ability. Therefore, we argue that:

> Hypothesis 3: Work ability moderates the positive relationship between age-diversity practices and work

engagement, such that the relationship is stronger among workers perceiving low work ability.

Following the previous reasoning, this study also hypothesizes that work ability moderates the strength of the mediated relationship between age-diversity practices and the preference for early or late retirement through work engagement. When older workers experience low work ability, they interpret organizational practices in a positive way and consequently may reciprocate by being fully engaged in their work (Alfes et al., 2013), which leads to a preference for retiring later. The perception of incapacity associated with low work ability reinforces the need to implement age-diversity practices that contribute to an engaged workforce and motivate the preference for a later retirement age. On the other hand, older workers who experience high levels of work ability already feel that they are able to meet job demands, and thus are more engaged in work and more willing to retire later. Therefore, for workers with high work ability, the indirect effect of age-diversity practices on the preference for early or late retirement is weaker. The following hypothesis is then proposed:

Hypothesis 4: Work ability moderates the indirect effect of age-diversity practices on the preference for early or late retirement via work engagement, such that the positive indirect effect is stronger among workers perceiving low work ability.

In summary, this study examines the impact of age-diversity practices on work engagement that, in turn, will influence the preference for early or late retirement. Also, this investigation argues that the relationship between age-diversity practices, work engagement, and the preference for early or late retirement could be strengthened by a negative perception of work ability. **Figure 1** presents the theoretical model of this study.

MATERIALS AND METHODS

Procedure and Sample

The data used here were obtained as part of a larger survey about work attitudes and retirement among Portuguese workers. The questionnaire had both an online and a paper and pencil version, and participants took on average 15 min to complete it. Ten large companies from different industries (e.g., energy, retail, manufacturing, services) and both public and private sectors were invited to disseminate the study and ask for voluntary participation among their workers. Data were also collected by a group of undergraduate and master students from ISCTE – University Institute of Lisbon, through their personal contacts and in their workplaces and internship places. Students participated in this research as part of their academic training and earned credit for completing the evaluation.

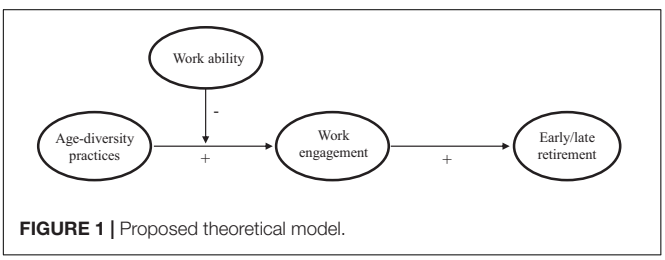

FIGURE 1 | Proposed theoretical model.

A sample of 232 older Portuguese workers, aged between 50 and 72-year-old (M = 55.08, SD = 4.52), completed the questionnaire. Among the participants, 56.5% were female and 47.4% had completed higher education. More than half of the participants (64.2%) were the primary wage earner in their households. Twenty-two percent of them worked in the Education and training sector, 14.7% in the Health and social support sector, and 13.4% in Manufacturing and production. The majority of participants (51.7%) worked in the public sector. Regarding organizational tenure, 17.7% of the participants were in the organization for 10 years or fewer and 28.9% for more than 30 years. Ninety-two percent of the sample had worked for more than 25 years.

Measures

All participants were fluent in Portuguese, which required the translation of the items from the source language (i.e., English) to the target language (Portuguese). We first translated the questionnaire to Portuguese, and then an independent researcher performed a blind back-translation to English (Brislin, 1970; van de Vijver and Hambleton, 1996). The back-translation version was compared to the original version and evaluated by a bilingual researcher, who did not suggest any modifications. Given that the work engagement scale was already adapted and validated for Portugal (Sinval et al., 2018), it was not included in the translation process.

Age-diversity practices were measured using a seven-item scale that assesses the extent to which workers perceive an inclusive and non-discriminatory treatment of workers of all ages regarding age-sensitive HR practices. Four of these items were retrieved from Boehm et al. (2014) age-diversity climate scale (2014). We included three additional items to account for organizational practices related to (a) performance evaluation ("All workers have the same opportunities to get an adequate evaluation, regardless of their age"), (b) recognition ("Experience, skills, and knowledge of workers are recognized, irrespective of their age"), and (c) job design ("The work is adjusted to workers' needs over time"). Responses were rated on a six-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Additionally, a Confirmatory Factor Analysis (CFA) was conducted to test the one-factor structure of this scale. The results revealed a satisfactory model fit: $\chi^2 = 26.08$, $df = 9$; $\chi^{2}/df = 2.898$; CFI = 0.98; TLI = 0.95; RMSEA = 0.09; SRMR = 0.03 (Hu and Bentler, 1999). The Cronbach's alpha showed a good internal reliability ($\alpha = 0.87$).

Work ability was assessed through four questions regarding both physical and mental demands of the work, at present and in the future (adapted from Tuomi et al., 1998; Weigl et al., 2013; McGonagle et al., 2015). It refers to an individual, subjective perception about workers' own ability to continue working considering work demands and personal resources (McGonagle et al., 2015). A sample item is: "How do you rate your current

work ability to meet physical demands?" Participants answered on a five-point scale ranging from 1 (very poor) to 5 (very good). The internal consistency coefficient for this scale was good ($\alpha = 0.90$).

Work engagement was measured using the short version of the Utrecht Work Engagement Scale with nine items (UWES-9) (Schaufeli et al., 2006; Sinval et al., 2018). The scale assesses a positive, fulfilling work-related state of mind (Schaufeli et al., 2002). An example item is: "I am enthusiastic about my job." Participants indicated how often they felt the way described in the statements on a seven-point rating scale ranging from 0 (never) to 6 (always). The scale revealed a good internal consistency ($\alpha = 0.95$).

Preference for early or late retirement was obtained through two questions. Participants indicated their expected ("At what age do you expect you could retire?") and preferred ("At what age would you like to retire?") retirement age (Zappalà et al., 2008; Hess, 2018). Preferred and expected retirement age were positively correlated ($r = 0.50$, $p < 0.001$), without multicollinearity problems as proposed by Tabachnick and Fidell (2013). To obtain the preference for early or late retirement, we calculated the difference between these two items by subtracting the expected retirement age from the preferred retirement age. As suggested by Hess (2018) and Zappalà et al. (2008), a negative value indicated a preference for early retirement (i.e., workers perceive they will have to work longer than they would like to), while a positive value revealed a preference for late retirement (i.e., workers would like to work longer than the statutory retirement age but there are factors preventing this desire).

Control Variables

Age, gender, education, status as wage earner, and organizational tenure were assessed as control variables. Age has been identified as a significant predictor of work ability (van den Berg et al., 2009; Converso et al., 2018), work engagement (Kim and Kang, 2017), and retirement planning (Evans et al., 1985; Taylor and Shore, 1995). Earlier research shows that gender, education, income, and organizational tenure are related with the transition to retirement (Wang and Shultz, 2010; Fisher et al., 2016; Topa et al., 2018). Age was measured in years. Gender and education were coded as dummy variables (0 = male, 1 = female; 0 = without an academic degree, 1 = with an academic degree, respectively). Participants were asked if they were the primary wage earner (i.e., if their job was the main source of income for the household) (0 = no; 1 = yes). Finally, organizational tenure was also dummy coded ($0 = \leq 30$ years; $1 = > 30$ years).

Data Analysis

A CFA was conducted to validate the measurement model. To test the moderated mediation, SEM was used. Bootstrapping was also implemented to validate the results obtained by the parametric method (maximum likelihood estimation). We used 5,000 bootstrap samples to generate 95% bias-corrected confidence intervals (CI) for both direct and indirect effects (Cheung and Lau, 2008).

Considering the model's complexity, due to the number of indicators involved in the moderation and that can result in an under identified model (Cortina et al., 2001), we followed the matched-pair strategy for defining products to represent the latent interaction, as suggested by Marsh et al. (2004). We began the analysis by standardizing all the indicators of age-diversity practices (independent variable) and work ability (moderator). Then we created the multiplicative terms of the latent variable interaction factor matching the items in terms of their quality. As age-diversity practices have seven items and work ability has four, we created four pairs, matching the best four indicators from age-diversity practices with all the indicators from work ability (i.e., the best indicator from age-diversity practices with the best indicator from work ability, etc.) (Marsh et al., 2004). Finally, we tested the research hypotheses under study. The analyses were performed with Analysis of Moment Structures (AMOS, v. 24; Arbuckle, 2016).

Measurement Model and Common Method Variance

The measurement model specifies the relationships between latent variables and their indicators (Henseler, 2017). **Table 1** shows the model fit statistics for different measurement models. The baseline three-factor model showed an adequate model-data fit. The normed chi-square was 2.08 ($\chi^2 = 317.85$, $df = 156$; $\chi^2/df = 2.083$), below the cutoff value of 3 (Hair et al., 2010). The comparative fit index (CFI) and Tucker-Lewis index (TLI) values were 0.96 and 0.95, respectively, near the suggested cutoff value of 0.95 (Hair et al., 2010). The root-mean square error of approximation (RMSEA) was 0.07, with the 90% confidence interval for RMSEA ranging from 0.056 to 0.078, which was less than the 0.08 value suggested by Browne and Cudeck (1992), and indicates a reasonable fit. The standardized root-mean square residual (SRMR) was 0.05, a value smaller than 0.08, and that indicates a good fit (Hu and Bentler, 1999; Hair et al., 2014).

As shown in **Table 1**, results demonstrated that the hypothesized measurement model (three-factor model) shows a better fit than all the alternative models. All the standardized loadings are greater than 0.50 (as suggested by Hair et al., 2010), and range from 0.63 to 0.94. Therefore, we proceeded with the assessment of the reliability and construct validity (convergent and discriminant validity) of the hypothesized measurement model. Convergent validity results are summarized in **Table 2**.

Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) were used for evaluating convergent validity. As presented earlier, Cronbach's alphas, which ranged from 0.87 to 0.95, showed that the latent variables had very good/excellent reliability (Kline, 2011). As shown in **Table 2**, the CR values ranged from 0.88 to 0.95, exceeding the minimum reliability value of 0.70, and all of the AVE values were above the threshold value of 0.50, confirming the construct reliability of composite indicators (Hair et al., 2010). The latent variables therefore meet the standard requirement of convergent validity. The assessment of discriminant validity uses the Fornell-Larcker criterion, which defines that the square root of each construct's AVE should be greater than the inter-construct correlations (Fornell and Larcker, 1981). The Fornell-Larcker criterion is met with regard to all measures. Also, discriminant validity is

TABLE 1 | Fit indices for measurement model comparison.

Models	Three-Factor – Model 1 (Full measurement model)	Model 2[a]	Model 3[b]	Model 4[c]	Model 5[d] (Harman's single factor)
χ^2 (df)	317.85 (156)	459.18 (155)	422.73 (154)	469.88 (151)	482.74 (149)
χ^2/df	2.083	2.962	2.745	3.112	3.240
CFI	0.96	0.89	0.93	0.92	0.92
TLI	0.95	0.91	0.92	0.90	0.89
RMSEA	0.07	0.09	0.09	0.10	0.10
SRMR	0.05	0.06	0.12	0.09	0.09
χ^2_{dif} (df)		141.33 (1)***	104.88 (2)***	152.03 (5)***	164.89 (7)***

*N = 232; χ^2, chi-square; df, degrees of freedom; χ^2/df, normed chi-square; CFI, comparative fit index; TLI, Tucker–Lewis index; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual; χ^2_{dif}, chi-square difference. ***$p < 0.001$. [a]Work ability and Work engagement combined into a single factor. [b]Work ability and Age-diversity practices combined into a single factor. [c]Work engagement and Age-diversity practices combined into a single factor. [d]The three factors combined into a single factor.*

TABLE 2 | Measurement model: convergent validity.

	CR	AVE	MSV
Age-diversity practices	0.88	0.51	0.30
Work ability	0.90	0.69	0.32
Work engagement	0.95	0.70	0.32

CR, composite reliability; AVE, average variance extracted; MSV, maximum shared variance.

obtained if the AVE is greater than the maximum shared variance (MSV) (Hair et al., 2010), which is shown in **Table 2**. These results sustain the existence of discriminant validity in the model.

In this study, all variables were collected from a single source at one point in time and using the same self-report questionnaire. Thus, we needed to establish whether common method bias was a concern in our data (Williams and Brown, 1994; Podsakoff et al., 2003). As we examined individual perceptions (about age-diversity practices and work ability), dispositions (work engagement), and preferences (for early or late retirement), participants are the best source of data regarding their own beliefs. Other sources (e.g., supervisors, coworkers) would have difficulty providing responses on behalf of workers due to the subjective nature of the variables, making self-reported measures clearly more appropriate (Conway and Lance, 2010). Nevertheless, we conducted Harman's single-factor test using CFA (Podsakoff et al., 2003). Results showed that a single-factor model did not fit the data well (**Table 1**). These results show that common method variance is not a major concern in this study.

RESULTS

Table 3 presents descriptive statistics (mean and standard deviation), reliability and bivariate correlations for all of the constructs. Participants revealed a preference for retiring on average at 61.06-year-old (SD = 4.77), an average of 4.16 years before their expected retirement age (M = 65.22, SD = 3.72). Age and organizational tenure were significantly correlated with the preference for early or late retirement (r = 0.35, $p < 0.001$; r = 0.18, $p < 0.01$, respectively). Gender, education, and status as wage earner showed a significant correlation with work ability ($r = -0.19$, $p < 0.01$; r = 0.17, $p < 0.01$; r = 0.13, $p < 0.05$, respectively). A significant correlation was found between status as wage earner and work engagement (r = 0.14, $p < 0.05$). Age-diversity practices, work ability, and work engagement had a significant correlation with preference for early or late retirement (r = 0.19, $p < 0.01$; r = 0.17, $p < 0.01$; r = 0.24, $p < 0.001$, respectively).

The Structural Model

The structural model specifies the relationships between the constructs (Henseler, 2017). Our hypothesized moderated mediation model had an acceptable fit to the data: χ^2 = 523.78; df = 261; χ^2/df = 2.007; CFI = 0.94; TLI = 0.93; RMSEA = 0.07; SRMR = 0.09. Age, gender, education, status as wage earner, and organizational tenure were controlled but they did not change the estimated main effects and interaction effects in the moderated mediation model.

Hypothesis 1 posited that age-diversity practices would be positively related to work engagement (**Table 4**). Results support this hypothesis (B = 0.71, $p < 0.001$, 95% CI = 0.48; 0.97), showing that as age-diversity practices increase, work engagement also increases. Hypothesis 2 stated that work engagement would mediate the relationship between age-diversity practices and the preference for early or late retirement. Results revealed the indirect effect to be significant (B = 0.51, 95% CI = 0.13; 1.04), providing support for Hypothesis 2. The direct effect became not significant (B = 0.47, $p > 0.05$, 95% CI = −0.67; 1.56), suggesting a full mediation (Preacher and Hayes, 2004).

Hypothesis 3 specified that work ability would moderate the relationship between age-diversity practices and work engagement. As shown in **Table 4**, the interaction term of age-diversity practices and work ability was significantly associated with work engagement (B = −0.28, p = 0.03, 95% CI = −0.55; −0.03). To further examine the moderation effect, we plotted the results and performed a simple slopes analysis based on the mean of the moderator (work ability) and at one SD above and below the moderator's mean (Aiken and West, 1991; Preacher et al., 2006). **Figure 2** plots the interaction, which shows that as work ability decreases, the effect of age-diversity practices on work engagement increases. The simple slopes test further supports the moderation effect. The relationship between age-diversity practices and work engagement is stronger when work

TABLE 3 | Construct means, standard deviations, correlations, and reliabilities.

	M	*SD*	1	2	3	4	5	6	7	8
(1) Age	55.08	4.52								
(2) Gender[a]	0.56	0.50	−0.06							
(3) Education[b]	0.47	0.50	0.10	0.05						
(4) Primary wage earner[c]	0.64	0.48	0.05	−0.27***	0.04					
(5) Organizational tenure[d]	0.29	0.46	0.34***	−0.01	−0.02	0.08				
(6) Age-diversity practices	3.64	1.18	0.04	−0.07	0.13	0.11	0.02	(0.88)		
(7) Work ability	3.69	0.82	−0.04	−0.19**	0.17**	0.13*	−0.05	0.35***	(0.90)	
(8) Work engagement	4.57	1.36	0.09	−0.06	0.08	0.14*	0.04	0.50***	0.60***	(0.95)
(9) Early/late retirement	−4.16	4.36	0.35***	−0.11	0.03	0.10	0.18**	0.19**	0.17**	0.24***

*N = 232. Reliability coefficients are reported in parentheses. [a]Male = 0, Female = 1. [b]Without an academic degree = 0, with an academic degree = 1. [c] No = 0, Yes = 1. [d] ≤30 years = 0, >30 years = 1. *p < 0.05; **p < 0.01; ***p < 0.001 (two-tailed test).*

TABLE 4 | Multiple Regression Results for Work engagement and Preference for early or late retirement.

Variables	Work engagement			Preference for early or late retirement		
	Coefficient	SE	95% CI	Coefficient	SE	95% CI
Independent variables						
Age-diversity practices	0.71***	0.13	0.48, 0.97	0.98*	0.48	0.03, 1.88
Work ability	0.79***	0.12	0.56, 1.06			
Interaction						
Age-diversity practices × Work ability	−0.28*	0.12	−0.55, −0.03			
Mediator						
Work engagement				0.71*	0.29	0.15, 1.28
Direct effect						
Age-diversity practices				0.47	0.57	−0.67, 1.56
Indirect effect						
Age-diversity practices				0.51**	0.23	0.13, 1.04

*N = 232. All estimates for the moderated mediation were also tested for significance using bias-corrected (BC) confidence interval from 5,000 bootstrap samples. *p < 0.05; **p < 0.01; ***p < 0.001.*

ability is low (B = 1.00, 95% CI = 0.64; 1.36) and weaker when work ability is high (B = 0.43, 95% CI = 0.08; 0.78), supporting the third hypothesis.

Hypothesis 4 posited that work ability would moderate the indirect effect of age-diversity practices on the preference for early or late retirement via work engagement. Findings showed that the index of moderated mediation was −0.20 (95% CI = −0.56; −0.02), demonstrating that as work ability decreases, the indirect effect of age-diversity practices on the preference for early or late retirement via work engagement increases (**Figure 3**). The simple slopes test provides further support for Hypothesis 4 (B_{low} = 0.70, 95% CI = 0.18; 1.46; B_{high} = 0.31, 95% CI = 0.06; 0.83).

Overall, work engagement mediates the relationship between age-diversity practices and the preference for early or late retirement, and this indirect effect was especially important for older workers who experience low work ability (**Figure 4**).

DISCUSSION

In response to the calls for identifying the factors that facilitate the extension of working lives (Burke and Ng, 2006; Vendramin et al., 2012), this study explored processes of mediation and moderation linking age-diversity practices to the preference for early or late retirement, in a sample of older workers. We proposed that age-diversity practices influence work engagement that, in turn, will influence the preference for early or late retirement, and, further, that the strength of this relationship is moderated by workers' perceptions of work ability. Data supported our moderated mediation model.

The first hypothesis proposed that age-diversity practices would be positively related to work engagement, and it was supported by the findings. Older workers that perceived the existence of age-diversity practices in their organization felt higher levels of energy, were more dedicated to their work, and were more often fully immersed in work. As stated by the reciprocity rule of SET, workers perceive age-diversity practices as a signal of organizational intention for a long-term investment in them and reciprocate by increasing their involvement in their work. This finding is consistent with those of previous studies showing that HR practices influence workers' involvement in work (Alfes et al., 2013; Conway et al., 2016). In our study, we narrow the broad range of HR practices by introducing age-diversity practices as an antecedent of work engagement. Older workers are a heterogeneous group and differ in their

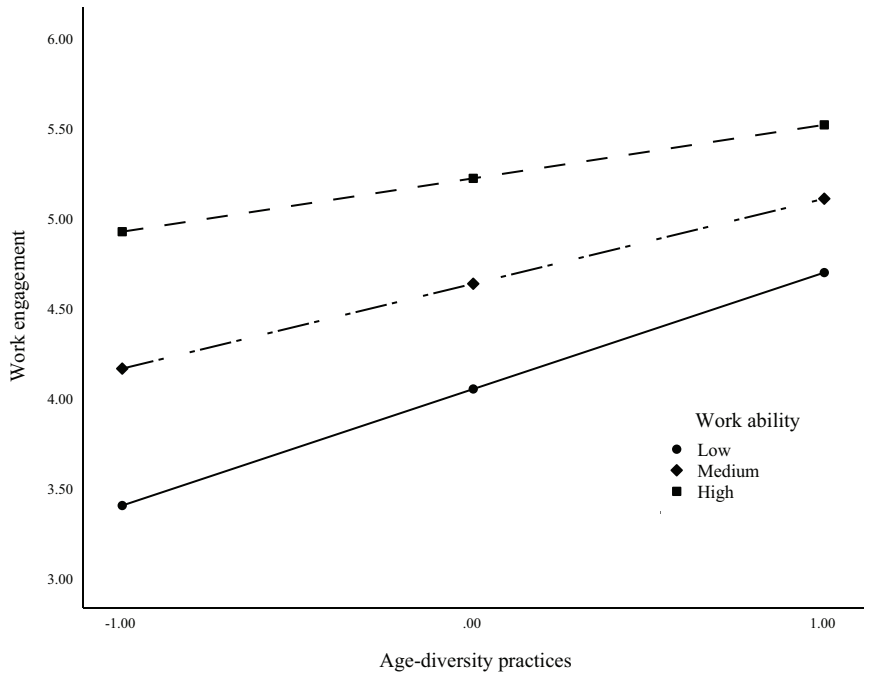

FIGURE 2 | Moderating effect of work ability on the relationship between age-diversity practices and work ability.

particular needs and expectations regarding their work. The implementation of HR practices that are age-sensitive (i.e., sensitive to the diversity that results from individual experiences throughout life) can promote older workers' engagement by responding to these specific needs and expectations. For example, workers who seek growth and want to achieve higher levels of functioning will feel more engaged in their work if they receive regular training or perceive the existence of opportunities for internal mobility.

The second hypothesis posited that work engagement would mediate the positive relationship between age-diversity practices and the preference for early or late retirement. This hypothesis was also sustained by the results. Individuals who have a positive perception of age-diversity practices are more likely to be engaged in their work and, therefore, have a greater tendency to remain in the workforce, delaying retirement. This result shows a mutual investment in the employee-organization relationship that engenders feelings of obligation, gratitude, and trust in both parties (Blau, 1964). This sense of commitment can buffer the "proximity to retirement" effect (Ekerdt and DeViney, 1993) that is characterized by a period of a decreasing investment in work-related activities (de Wind et al., 2017). Therefore, organizational factors such as age-diversity practices can slow down the preretirement work disengagement process by creating the perception that older workers' talent is valued and needed in the organization (Damman et al., 2013). Hence, age-diversity practices might increase the likelihood that older workers will extend their working careers and retire later.

In the third hypothesis, we proposed that work ability would moderate the relationship between age-diversity practices and work engagement, and this, too, was supported by the empirical findings. The extent to which age-diversity practices lead to work engagement is contingent upon the overall levels of functioning of older workers. More specifically, results demonstrate that the influence of age-diversity practices on work engagement can be especially important for older workers feeling less capable to meet job requirements. As work ability is related with age-related changes that occur throughout life, workers will likely experience decreasing levels of work ability as they age (Converso et al., 2018), which makes age-diversity practices especially important for older workers' engagement. As the aging process is different from person to person, due to the multiplicity of factors influencing it, it is important to adjust organizational practices to individual needs. Older workers who exhibit low levels of functioning, or who are at risk of experiencing it, will welcome HR initiatives that maintain the current levels or accommodate the lost resources (e.g., flexible work arrangement, reduced workload) (Kooij et al., 2014). Age-diversity practices, due to their flexibility to answer to workers' idiosyncrasy, can promote the engagement of older workers experiencing a decline in work ability.

Finally, the fourth hypothesis proposed the moderated mediation model. Findings show that the effect of age-diversity practices on the preference for early or late retirement via work engagement is stronger for lower levels of work ability. This means that older workers who experience low work ability are more likely to retire later if they are more engaged in their work due to the existence of age-sensitive HR practices in their organization that support and value them. On the contrary, the lack of age-diversity practices may be interpreted by older

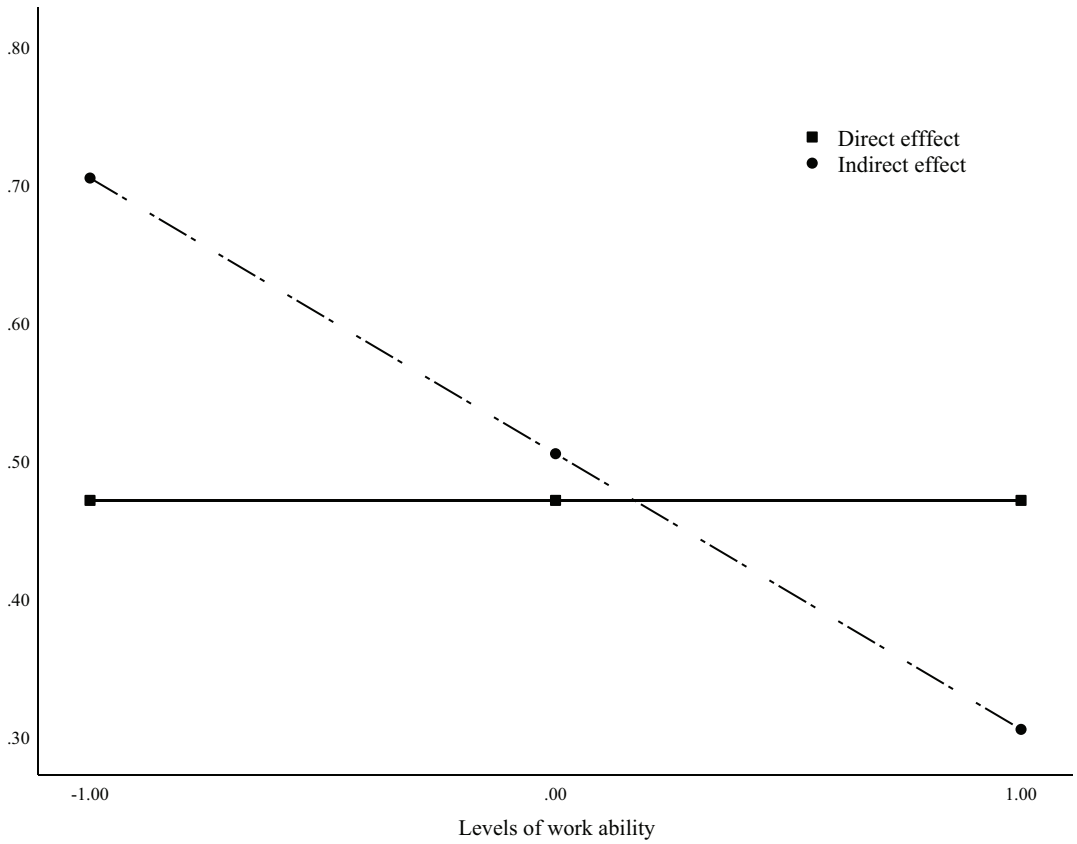

FIGURE 3 | The conditional indirect effect of age-diversity practices on the preference for early or late retirement via work engagement.

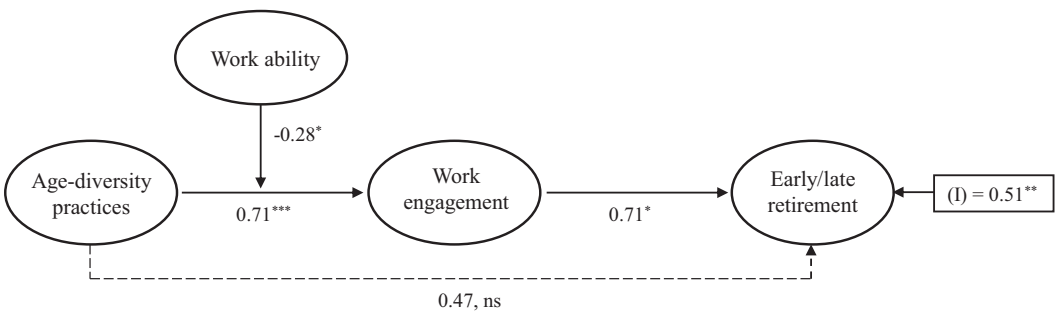

FIGURE 4 | Results of the moderated mediation model. (I) Indirect effect of age-diversity practices on the preference for early or late retirement via work engagement; ns: not significant; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

workers as a sign that the organization does not support them, which in turn will lead them to disengage from the workforce and encourage them to retire earlier than expected.

From a societal perspective, governmental strategies to extend working lives (e.g., increasing statutory retirement age, penalizing early retirement exits) might, on the one hand, provide workers with more opportunities to continue working and, on the other hand, force workers to stay in the labor market, despite their health problems or lack of motivation to work (Flynn, 2010). This means that older workers who feel obligated to work longer will show increases in work disengagement (Damman et al., 2013), challenging organizations' strategies to encourage workers to work longer. So, age-diversity practices appear to play an important role in providing opportunities for workers to achieve higher levels of functioning and feel motivated to continue working, as well as in supporting individuals to maintain and utilize their existing resources (Zaleska and de Menezes, 2007; Kooij et al., 2014; van Dalen et al., 2015).

Thus, in short, by accommodating age-related changes in workers' capacities and skills (Ilmarinen, 2001;

Truxillo et al., 2015), age-diversity practices can foster older workers' engagement and their desire to retire later. In that manner, organizations will retain the best talents that are already part of the organization, but will also be able to attract and recruit new talents, achieving an engaged age-diverse workforce.

Theoretical and Practical Implications

This study makes some valuable academic contributions, namely to the HRM, work engagement, and retirement-related literatures. The results contribute to the HRM literature by showing that practices that are developed taking into account the age-related changes that occur throughout life can benefit older workers' engagement. These practices are not specific to the age group of older workers, but are instead sensitive to the gains and losses that occur more frequently in this phase. In line with SOC theory (Baltes and Baltes, 1990), age-diversity practices can help individuals to reach higher levels of functioning, to maintain current levels, or to return to earlier levels of functioning, and to function adequately at lower levels (Baltes et al., 1999; Kooij et al., 2014). Thus, age-diversity practices help workers to employ different SOC strategies according to their goals and needs and, therefore, they will become more engaged and committed.

We extend earlier research on work engagement and retirement by showing that workers' engagement affects retirement intentions. Work engagement is a mechanism that influences a range of positive outcomes, such as organizational commitment, health, and performance (Christian et al., 2011), and can also encourage older workers to postpone retirement. Besides this direct effect, there is a mediating effect of work engagement in the relationship between organizational practices and retirement. This finding shows that this fulfilling, positive state of mind explains how organizations can encourage workers to stay in employment longer.

Finally, the results also contribute to the existing literature on work engagement and retirement by showing the moderating role of work ability in the proposed model. When workers experience low work ability, the relevance of age-sensitive HR practices becomes even more salient. Age-diversity practices are perceived as a signal that the organization still value older workers' contributions, although there is a gap between personal capacities and work demands. As long as organizations provide working conditions that support older workers, such as age-diversity practices, low work ability will not necessarily result in early retirement (Oksanen and Virtanen, 2012). In fact, despite the perception of low levels of functioning, older workers can still be engaged in their work and want to contribute to organizational success.

Empirical findings reveal important practical implications, especially in a context of an aging workforce. Findings suggest that HR managers can implement age-diversity practices to facilitate work engagement among older workers, especially for those who are most vulnerable due to their low work ability. These results highlight the importance of periodically (e.g., annually) evaluating the engagement and work ability of all workers, including older workers. Many organizations already conduct surveys to evaluate workplace climate or workers' satisfaction, with the purpose of identifying and implementing strategies for retaining talents and enhancing productivity. Organizations can benefit from measuring these two constructs (i.e., work engagement and work ability) when surveying their workers in order to identify and monitor their needs, and to create practices that meet these needs. Data from these internal surveys can help organizations to determine which groups of workers are at risk of retiring earlier than the statutory retirement age, due either to low work ability or to low work engagement, and adopt the necessary initiatives for a sustainable late career.

For example, in a manufacturing company, older assembly line workers may be exposed to physically demanding tasks, while those in the accounting department may be exposed to prolonged use of visual display terminals. The first group of older workers might benefit from accommodative practices such as flexible work arrangements (e.g., compressed work week, exemption from night shifts). An individual from the second group that has eye strain might benefit from a set of maintenance practices focused on an ergonomic adjustment of work (e.g., make the monitor's and room brightness match by reducing glare from windows) and training on how to prevent visual discomfort when working at the computer. Such age-diversity practices might encourage workers to use SOC strategies to adapt to changes in work ability, promote engagement, and ensure that late career is a positive experience for individuals.

These bundles of development, maintenance, utilization and accommodative practices can contribute to workers' engagement, and engaged workers will likely prefer to retire later, which is beneficial for the organization. First, an engaged age-diverse workforce can contribute to better organizational outcomes, such as performance, since workers will feel valued and committed with their organization (Boehm et al., 2014). Second, organizations can capture important knowledge that older workers possess that might be advantageous or detrimental for organizational success, and also ensure that this knowledge is transferred to the workers who will succeed those who are retiring in the near future (e.g., workforce planning, succession planning, mentoring). Finally, age-diversity practices can make organizations more appealing for candidates of all ages, which will facilitate the attraction and recruitment of individuals that meet organizational requirements. This will result in an age-diverse workplace with a range of different skills, experience, and perspectives, which might contribute to greater creativity and innovation in teams (e.g., Wegge et al., 2012). Hence, age-diversity practices can help organizations to extend working lives, thus responding proactively to the challenges of an aging workforce.

Limitations and Future Research

This study highlighted the relevance of age-diversity practices, work ability, and work engagement in retirement preferences, expanding current knowledge about the organizational role in the retirement decision-making process. However, it also has some limitations. First, data were collected at one point in time and, therefore, the conclusions need to be interpreted with caution since in cross-sectional studies it is not possible to identify the causal order of the relationships under study. Future studies with longitudinal designs are welcomed to explore causal effects

between these constructs and also to follow workers' perceptions about age-diversity practices over time. A second limitation pertains the non-representative sample of this study for older Portuguese workers, which limits the generalizability of the findings. Data were collected with a convenience sample focusing on heterogeneity, with the purpose of increasing the variety of jobs, individual (e.g., age, gender, education) and organizational (e.g., HR practices, dimension, industry) characteristics. In the future, it would be important to replicate the moderated mediation model in a representative sample of older Portuguese workers. A third limitation of this study is that all participants were from one country (Portugal). Since there are retirement-related particularities in each country, future research should consider other cultures for more generalized results.

Also, we measured perceived rather than actual practices as we were interested in understanding how workers perceive the bundles of HR practices implemented by their organization. However, actual practices can vary across organizations according to their business strategies and the environmental constraints and contingencies. For instance, some organizations may implement essentially development practices for older workers, providing training and internal promotion opportunities, while other organizations may offer mainly accommodative practices, such as workload reductions. Thus, it would be important to apply the case study design to explore how actual and perceived age-supportive HR practices influence work engagement and retirement preferences.

In this study, we conceptualized the preference for early or late retirement in terms of individual preferences and expectations about retirement timing and, therefore, operationalized it using a subjective measure. Future research on this topic could operationalize early, on-time, and late retirement using objective criteria such as age, years of service, and eligibility (e.g., the age at which one becomes eligible for a government pension), and examine the influence of age-diversity practices, work engagement, and work ability in these measures.

Finally, it would also be interesting to examine differences across industries or occupations. Different industries are represented in this study, but the sample size does not allow comparisons among them. In the future, the proposed model can be examined comparing, for instance, the health sector with manufacturing, providing some extra insight about the importance and influence of age-diversity practices and work engagement in these specific contexts.

DATA AVAILABILITY

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

This study was carried out in accordance with the guidelines of the Code of Ethical Conduct on Research of the Ethics Committee of the ISCTE – University Institute of Lisbon and of the Code of Ethics of the Order of Portuguese Psychologists. All participants gave written informed consent in accordance with the Declaration of Helsinki. Respondents were provided with information about the purpose of the study and were assured of anonymity and confidentiality. Participants were also informed that their participation was voluntary and of their right to withdraw participation at any time without prejudice from any party. The protocol was approved retrospectively by the Ethics Committee of the ISCTE – University Institute of Lisbon.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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