



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

ARCHIVIO ISTITUZIONALE DELLA RICERCA

Alma Mater Studiorum Università di Bologna Archivio istituzionale della ricerca

Maintaining and engaging older workers at work: the trigger role of personal and psychosocial resources

This is the final peer-reviewed author's accepted manuscript (postprint) of the following publication:

Published Version:

Vignoli M., Zaniboni S., Chiesa R., Alcover C.-M., Guglielmi D., Topa G. (2021). Maintaining and engaging older workers at work: the trigger role of personal and psychosocial resources. THE INTERNATIONAL JOURNAL OF HUMAN RESOURCE MANAGEMENT, 32(8), 1731-1753 [10.1080/09585192.2019.1579252].

Availability:

This version is available at: <https://hdl.handle.net/11585/727551> since: 2020-02-17

Published:

DOI: <http://doi.org/10.1080/09585192.2019.1579252>

Terms of use:

Some rights reserved. The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

This item was downloaded from IRIS Università di Bologna (<https://cris.unibo.it/>).
When citing, please refer to the published version.

(Article begins on next page)

1 **Abstract**

2 Because the working population age is increasing, organizations are struggling to find ways to
3 maintain employees' desire and interest in staying on at work. Accordingly, the aim of this study
4 is to enhance knowledge concerning the role played by personal resources (i.e., work ability) and
5 psychosocial aspects (i.e., older workers stereotypes) in influencing desired retirement age and
6 work engagement in older workers. Data was collected twice, using questionnaires on a sample
7 of 565 older workers working in a public organization in Italy. Specifically, work ability, age
8 stereotypes on older workers stereotypes and desired retirement age were measured at T1, while
9 work engagement was measured at T2 (eight months later). Using the Preacher and Hayes
10 approach, a moderated mediation analysis was performed controlling for age, self-rated health,
11 expected retirement age, tenure and job position. Results showed that older workers with higher
12 levels of work ability and lower perceptions that in their environment there are age stereotypes,
13 desire to work longer, and in turn stay engaged at work.

14 *Keywords:* older workers' Work ability, Older workers stereotypes, Desired retirement age,
15 Work engagement, older workers' motivation

16

1 **Maintaining and engaging older workers at work: the trigger role of personal and social**
2 **resources.**

3 **Introduction**

4 The age of the labour force will radically change over the next decades due to the
5 increase in population aging (Bal et al., 2015) in nearly all countries in the world (Dordoni &
6 Argentero, 2015). Considering the case of Italy, especially the public sector, the Italian Union of
7 Public Workers (ARAN, 2013) reported that in 2009 almost 50% of public workers were over 50
8 years of age. Accordingly, the State General Accounting Department (2015) reported that
9 following a 6-year increase in the average age of public workers between 2001 and 2014, the
10 expected mean age in 2019 will be around 53 years. This is due to both a longer lifespan and the
11 delayed minimum retirement age, which is forcing older workers to work longer¹ (D’Addio,
12 Keese, & Whitehouse, 2010; Dordoni & Argentero, 2015; Hofäcker, 2015; Szinovacz, Martin, &
13 Davey, 2014; Walker, 2007). In this scenario, it is important to understand how to help older
14 workers maintain their desire to stay on at work and remain engaged (Hertel, Van der Heijden,
15 De Lange, & Deller, 2013; Zaniboni, Fraccaroli, & Sarchielli, 2010). Research has shown that
16 retirement intentions/decisions can be affected by various individual situations (e.g., personal
17 resources, such as self-efficacy; Wöhrmann, Fasbender, & Deller, 2017) and by older workers’
18 identity (Bayl-Smith & Griffin, 2014; Topa & Alcover, 2015; Zaniboni et al., 2010). But also

¹ In Italy, the number of people aged over 65 years has doubled since 1950, is steadily growing, and is expected to reach 33% of the population by 2050 (United-Nations, 2009). From 2007 to 2016 the percentage of workers over 65 has progressively increased from 3.3% to 4.0% of the workforce (OECD, 2018). The participation rate in the labour force of people aged 50-64 is around 59% in 2017, compared to 60.9% of people aged 25-34, and 73.1% of people aged 35-49 (ISTAT, 2017). In addition, in 2015 (when the data were collected), the average retirement age in Italy was 65 (source ISTAT, <http://www.istat.it/it/>).

The Pension System Reform called “Fornero” refers to art. 24 of Law Decree no. 201 and was published on 6 December 2011. The current Italian pension system includes three pillars. The first pillar is a public, compulsory and unfunded pay-as-you-go system; the second and the third pillar are private, voluntary and funded. In 2014, the age at which employees could draw a seniority pension was 66 for both men and women working in the public sector, if they had paid social security contributions for a minimum of 20 years. Basically, this reform raised the minimum age for workers to retire. Nowadays, workers can choose different moments for retirement, but the earlier they retire (this threshold was raised by the Fornero pension system reform), the less money they receive.

1 contextual aspects (e.g., psychosocial resources, such as organisational climate for successful
2 aging, social networks and cohesion; Zacher & Yang, 2016; Henkens & Tazelaar, 1997;
3 Kosloski, Ekerdt, & DeViney, 2001; Mein et al., 2000; Oakman & Wells, 2013) could play a role
4 in determining retirement intentions and decisions. Moreover, as suggested by the Conservation
5 of Resources Theory (Hobfoll, 1989; Hobfoll, 2002; Hobfoll, Johnson, Ennis, & Jackson, 2003)
6 and by the Resource-Based Model for Retirement Adjustment (Wang, 2007, Wang, Henkens, &
7 van Solinge, 2011; Wang & Shi, 2014), personal and psychosocial resources can interact to
8 affect retirement and work-related outcomes. However, the few studies have analysed the
9 combined effects of resources on older workers' desire to postpone retirement (e.g., Zaniboni,
10 2015). For example, Zaniboni (2015) found that personal and social resources interacted in
11 affecting desired retirement age and expected retirement adjustment.

12 There are no studies on the medium term effect of the desire to postpone retirement based
13 on work-related outcomes, such as work engagement. In particular, monitoring work engagement
14 in the medium term (e.g., approximately over a year), after the decision/desire to prolong
15 working life by postponing retirement, can help in understating how to keep older workers
16 motivated for their late career, with positive outcomes for both workers and the organisation.
17 Moreover, research is needed in the nomological network of the desired retirement age over the
18 expected retirement age, analysing how individual (e.g., work ability) and contextual aspects
19 (e.g., older worker stereotypes) can affect willingness to work longer, and how this
20 decision/desire can have an impact on working life in the middle term (e.g., work engagement)
21 (e.g., Zaniboni, 2015). Thus, the scope of this study is to address a gap in literature by examining
22 how work ability (older workers' personal resources) interacts with negative, age-related older
23 worker stereotypes (lack of psychosocial resources) in affecting the desired retirement age and,

1 in turn, in continuing engagement at work (i.e., in the middle term). We based our hypotheses on
2 the Conservation of Resources Theory (Hobfoll, 1989; Hobfoll, 2002; Hobfoll, Johnson, Ennis,
3 & Jackson, 2003) and on the Resource-Based Model for Retirement Adjustment (Wang, 2007,
4 Wang, Henkens, & van Soling, 2011; Wang & Shi, 2014).

5 **Literature review**

6 *The Conservation of Resources Theory and the Resource-Based Model for Retirement* 7 *Adjustment.*

8 The Conservation of Resources Theory is a general motivational theory based on the
9 assumption that individuals are motivated to obtain, retain, protect, and foster the things they
10 value (i.e., resources) (Hobfoll, 1989; Hobfoll, 2002). Hobfoll and Wells (1998) noted that
11 resource losses are more likely to occur later in life, and it is more difficult to offset these losses
12 by mobilising other resources. This theory has been widely used in ageing studies to understand
13 the relationship between gain/presence and loss/lack of resources, and work and retirement-
14 related outcomes, such as older workers' job satisfaction and work engagement (i.e., Guglielmi
15 et al., 2016; Sun & Pan, 2008), intention to retire (i.e., Henkens & Leenders, 2010; Zaniboni,
16 2015), and retirement well-being (i.e., Leung & Earl, 2012; Topa, Jiménez, Valero, & Ovejero,
17 2017). For example, Leung and Earl (2012) found that retirement resources (i.e., physical,
18 financial, social, emotional, cognitive and motivational) were positively related to both
19 retirement satisfaction and retirement adjustment. Moreover, as suggested by Hobfoll (2002;
20 Hobfoll et al., 2003), personal and social resources can interact to affect work and retirement
21 related outcomes, and more research can help in understanding potential advantages and
22 constraints that occur in this combination. More focused on ageing and retirement, the Resource-
23 Based Model for Retirement Adjustment analyses the different factors (i.e., resources) that can

1 influence retirement-related outcomes (Wang, 2007; Wang et al., 2011; Wang & Shi, 2014). The
2 model posits that retirement-related outcomes result from the individual's access to resources,
3 such as financial, health, social, emotional, motivational and cognitive. In particular, Wang and
4 colleagues (Wang et al., 2011; Wang & Shi, 2014) suggested that changes in resources (e.g.,
5 gain/presence and loss/lack of resources) can affect well-being during retirement. Therefore,
6 people can experience fewer (higher) difficulties in retirement when they have more (fewer)
7 resources to fulfil their needs. Moreover, Wang and colleagues (Wang et al., 2011; Wang & Shi,
8 2014) highlighted the importance of analysing the combined effects of different kinds of
9 resources (e.g., personal and psychosocial). This combination has been empirically examined in
10 previous studies (e.g., Zaniboni, 2015). For example, Zaniboni (2015), using both the
11 Conservation of Resource Theory and the Resource-Based Model for Retirement Adjustment,
12 found that perceived age discrimination (a form of lack of social resources) interacted with older
13 workers' personal resources in affecting two retirement-related outcomes (i.e., desired retirement
14 age and expected adjustment). In particular, results showed that older workers' personal
15 resources were more positively related to desired retirement age and to expected retirement
16 adjustment in older employees perceiving low age discrimination than in those perceiving high
17 age discrimination.

18 According to the Conservation of Resources Theory and the Resource-Based Model for
19 Retirement Adjustment, older workers may still count on personal resources, such as work
20 ability, but at the same time, they could find a drop in psychosocial resources, such as high levels
21 of age stereotypes in the workplace. The interaction of these personal and social resources can
22 affect work and retirement outcomes, such as desired retirement age and work engagement of
23 older workers.

1 ***Work Ability, as a personal resource.***

2 Personal resources are positive self-evaluations and they may refer to the abilities of
3 individuals to successfully control and impact their environment (Hobfoll et al., 2003). Among
4 various personal resources, work ability is considered important in studying the work and
5 retirement-related aspect for older workers (Shultz & Wang, 2011). Work ability refers to
6 employees' ability to carry out their work, that is, by possessing the occupational competence,
7 the health required for the job, and the occupational qualities needed to manage the job's tasks
8 (Tengland, 2011). Work ability is the result of the worker's perception of work demands and the
9 ability to cope with them (Koolhaas, van der Klink, de Boer, Groothoff, & Brouwer, 2014). It
10 refers to the "functional capacity to meet requirements of the job" (Airila et al., 2014, p. 88).
11 Previous studies found that work ability was associated with disability leave (von Bonsdorff et
12 al., 2011; McGonagle, Fisher, Barnes-Farrell, & Grosh, 2015), absence from work (McGonagle
13 et al., 2015; Ahlstrom, Grimby-Ekman, Hagberg, & Dellve, 2010), retirement (Sell et al., 2009;
14 McGonagle et al., 2015), and work engagement (Airila et al., 2014). Furthermore, as reported by
15 Koolhaas and colleagues (2014), low levels of work ability have been found to be associated
16 with low levels of performance, productivity loss, long-term absenteeism and early exit from
17 work (Ahlstrom et al. 2010; Ilmarinen, Tuomi, & Klockars, 1997; Koolhaas, Van der Klink, de
18 Boer, Groothoff, & Brouwer, 2012; Robroek, Van Lenthe, Van Empelen, & Burdorf, 2009;
19 Salonen, Arola, Nygård, Huhtala, & Koivisto, 2003; Schultz, Chen, & Edington, 2009; Sell et al.,
20 2009). Perceived work ability, defined as the worker's self-perception of his/her ability to
21 perform his/her job, is a relevant construct in order to understand the psychological processes
22 related to workforce withdrawal (McGonagle et al., 2015). Hence, it can be an important aspect
23 that affects older workers' desire to work longer and their work engagement. For example,

1 McGonagle and colleagues (2015) suggested that workers might decide to remain at work due to
2 their perception of high levels of work ability. Moreover, in a longitudinal study Airilia and
3 colleagues (2014) found that work ability is a resource that can positively influence work
4 engagement in the long term. Similarly, in a sample of managers Feldt, Hyvönen, Mäkikangas,
5 Kinnunen, and Kokko (2009) found that work ability was positively related to job involvement
6 and organisational commitment.

7 *Older worker stereotypes as a lack of social resources.*

8 Psychosocial resources are often explored as the gain/presence or the loss/lack of social
9 support in the workplace (e.g., Hobfoll, 2002). In ageing research, age stereotypes and
10 discrimination are considered particular forms of loss/lack of social support at work (e.g.,
11 Greenberg, Schimel, & Martens, 2002). Age stereotypes differ from age discrimination because
12 the former are defined as the mental representations people have of different social groups, while
13 the latter concerns the behaviour people enact toward members of different social groups
14 (Whitley & Kite, 2006). Workplace age stereotypes refer to beliefs and expectations towards
15 workers based on their age (Hamilton & Sherman, 1994), and to “a simplified, undifferentiated
16 portrayal of an age group that is often erroneous, unrepresentative of reality, and resistant to
17 modification” (Schulz, Noelker, Rockwood, & Sprott, 2006, p. 43). Workplace age stereotypes
18 differ from age diversity climate, which has been defined as the shared perceptions
19 “organisational members have of the fair and non-discriminatory treatment of employees of all
20 age groups with regard to all relevant organisational practices, policies, procedures, and rewards”
21 (Boehm, Kunze, & Bruch, 2014, p.671). In other words, workplace age stereotypes are beliefs
22 regarding the characteristics of people within the same age group, while age diversity climate
23 reflects the perception of organisational behaviour toward different age groups. In addition,

1 unlike age diversity climate, workplace age stereotypes are usually measured at an individual
2 level (e.g., Bal et al., 2015; Gaillard & Desmette, 2010; Maurer, Barbeite, Weiss, & Lippstreu,
3 2008), also when they concern the perception of dispositions implemented by organisations for
4 older workers (Chiesa et al., 2016).

5 Although the perception of older workers varies (Bal, Reiss, Rudolph, & Baltes, 2011;
6 Bertolino, Truxillo, & Fraccaroli, 2012; Hilton & Von Hippel, 1996), they generally tend to be
7 stereotypically viewed more negatively than younger workers, especially in terms of productivity
8 and adaptability (e.g., Taylor, Steinberg, & Walley, 2000; Dordoni & Argentero, 2015;
9 Karpinska, Henkens, & Schippers, 2013; Van Dalen, Henkens, & Schippers, 2009; 2010; Chiu,
10 Chan, Snape, & Redman, 2001). Posthuma & Campion (2009) described different common age
11 stereotypes that refer to older workers, such as: a) poor performance (older workers are
12 considered to have fewer skills and be less motivated and less productive than younger workers);
13 b) resistance to change (older workers are defined as harder to train, less flexible, less adaptable
14 and more resistant to change); c) low ability to learn (older workers are expected to have a lower
15 ability to learn and, therefore, have less potential for career development); d) short tenure (older
16 workers will have shorter job tenure and, therefore, will provide fewer years during which the
17 employer can obtain productive returns from training investments). The potential negative
18 consequences of age stereotypes on older employees' work life are numerous (e.g., Dordoni &
19 Argentero, 2015). In their integrative framework of later adulthood goals, Kanfer, Beier &
20 Ackerman (2013) posited that age stereotypes held by organisations, supervisors, and co-workers
21 are among the work conditions that interact with personal characteristics in affecting motivation
22 at work and motivation to retire. This is consistent with the Conservation of Resources Theory
23 (Hobfoll, 1989; 2002), which assumes that individuals with greater resources are less vulnerable

1 to resource loss and more capable of orchestrating resource gain, while those lacking resources
2 are more vulnerable to resource loss and less capable of resource gain. People who have more
3 personal resources have a stronger sense of control over their environment and are more
4 motivated to invest resources in order to enrich their resource pool, while those who lack
5 resources are likely to adopt defensive strategies to preserve their resources (Hobfoll et al.,
6 2003).

7 In accordance with this, we expect a lack of resources, such as organisational support due
8 to the perception of age stereotypes, to either reduce or neutralise the positive effect of work
9 ability on desired retirement age.

10 This is in line with recent findings (Zaniboni, 2015) according to which the effect of
11 personal resources on retirement-related outcomes is lower in cases of higher levels of perceived
12 age discrimination. It is plausible to expect a similar effect of age stereotypes in either reducing
13 or neutralising the positive effect of work ability on desired retirement age.

14 ***Aim and research hypotheses.***

15 The aim of this study is to address the issue of how to enhance older workers' desire to
16 stay on at work and their middle term work engagement by analysing the combined effect of
17 work ability (personal resources) and negative age stereotypes about older workers (lack of
18 psychosocial resources). Based on the Conservation of Resources Theory (Hobfoll, 1989;
19 Hobfoll, 2002; Hobfoll et al., 2003) and on the Resource-Based Dynamic Model for Retirement
20 Adjustment (Wang, 2007; Wang et al., 2011; Wang & Shi, 2014), older workers' working ability
21 is expected to be more positively related to desired retirement age and, in turn, to work
22 engagement in the middle term when the level of stereotypes against older workers in the
23 workplace is perceived as low. Thus, an older worker who still has the ability to carry out his/her

1 work will desire to work longer if he/she perceives low levels of stereotypes against older
2 workers at work and, consequently, he/she will stay engaged at work in the middle term (Figure
3 1).

4 *Hypothesis 1: Older worker stereotypes moderate the relationship between work ability*
5 *and desired retirement age; hence, work ability is more positively related to desired retirement*
6 *age for workers perceiving lower levels of older worker stereotypes, compared to their*
7 *colleagues perceiving higher levels of older worker stereotypes.*

8 *Hypothesis 2: The indirect effect of work ability on work engagement through desired*
9 *retirement age depends on older worker stereotypes. Indeed, for older workers perceiving lower*
10 *levels of older worker stereotypes, work ability will have a larger positive impact on desired*
11 *retirement age that, in turn, will increase their work-engagement (moderated-mediation model).*

12 **Method**

13 *Procedure and Participants*

14 Data for this study were collected twice (with a time lag of 8 months) by means of self-
15 reported online surveys between September 2014 and May 2015. The questionnaires included a
16 statement regarding personal data processing, in accordance with the Italian Privacy Law (Law
17 Decree DL-196/2003). At Time 1 participants provided information on different aspects such as:
18 socio-demographic characteristics, work ability, older worker stereotypes, desired retirement
19 age, and on control variables, such as job involvement and expected retirement age. At Time 2 (8
20 months later) participants provided information on work engagement. The time lag was chosen
21 considering that one of the study's aims was to observe work engagement of older workers in the
22 middle term. All the 1584 workers aged over 50 years employed in the organisation were invited
23 to participate in the study via e-mail, which also provided information on the aim of the project.

1 The respondents remained anonymous to their employer, and each participant was assigned an
2 anonymous code in order to merge the two questionnaires to the same person. 972 workers
3 completed the first survey (response rate = 61.36%), while 949 workers completed the second
4 survey (response rate =59.91%). In order to monitor potential differences between the two
5 samples of participants, we conducted a comparison of the two samples. Results showed no
6 significant differences, despite the mean age in the second data collection (respectively 56.16 in
7 T2 and 55.79 in T1). This is not surprising due to the postponement of job retirement and the fact
8 that people aged during the study. Therefore, age was included as a control variable in our
9 analyses. The study was conducted in a public organisation using white collar workers who had
10 no contact with either clients or patients.

11 The number of participants who responded to both surveys was 621. Due to missing data
12 on the variables used for this study, the final sample comprised 563 employees, of which 62.5%
13 were female. The average age was 55.37 years ($SD = 3.4$; range: 50-64). In addition, 9.1% had
14 completed high school, 45.1% had some college education, and 37.3% had a bachelor or master
15 degree. We chose the threshold of 50, even if there is little consensus on the chronological age
16 (or ages) at which a person is defined as “older worker”, consistently with previous studies on
17 older workers and retirement-related outcomes (e.g., McCarthy, Heraty, Cross, & Cleveland,
18 2014; Frins, van Ruysseveldt, van Dam, & van den Bossche, 2016).

19 ***Measures***

20 *Work ability.* This concept was measured with a one-item scale developed by McGonagle
21 and colleagues (2015). The single item on work ability was defined as a reliable indicator to
22 capture the status and progress of work ability (Koolhaas et al., 2014). The item was “How many
23 points would you give your current ability to work?” The response scale ranged from 0 (*cannot*

1 *currently work at all*) to 10 (*work ability at its lifetime best*). The single-item question on work
2 ability has often replaced the Work Ability Index (Tuomi, Ilmarinen, Jahkola, Katajarinne, &
3 Tulkki, 1998) in clinical and occupational practice, showing similar results (Ahlstrom et al.,
4 2010; De Croon, Sluiter, Kuijer, & Frings-Dresen, 2005; Sluiter and Frings-Dresen, 2008;
5 Koolhaas et al., 2014).

6 *Older worker stereotypes.* This dimension was measured with the four-item adaptability
7 dimension taken from the Italian version (Chiesa et al., 2016) of stereotypes in the older
8 workers' scale developed by Henkens (2005). This scale aimed to measure stereotypes as the
9 perception of an organisation's negative vs. positive beliefs on 50 and over year old workers.
10 (Chiesa et al., 2016). The items were introduced by the sentence "In my department there is the
11 belief that", followed by, "older workers are less able to adapt to technological change than
12 younger workers"; "Older workers are less interested in technological change than younger
13 workers"; "Older workers are less interested in participating in training programmes than
14 younger workers" and "Older workers are less capable of coping with stress than younger
15 workers". Items were scored on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5
16 (*strongly agree*). Coefficient alpha was .78 in this study.

17 *Desired retirement age.* Desired retirement age was measured by asking participants to
18 say the age when they desired to retire, regardless of the date from when they actually could
19 retire. The item used was, "If you could choose, at what age would you retire?".

20 *Work engagement.* This study used the short version of the Utrecht Work Engagement
21 Scale (Schaufeli, Salanova, González-Romá, & Bakker, 2002; Schaufeli, Bakker, & Salanova,
22 2006; Italian version validated by Balducci, Fraccaroli, & Schaufeli, 2010), consisting of nine
23 items. A sample item is, "At my work, I feel bursting with energy". The items were scored on a

1 7-point scale ranging from ‘0’ (never) to ‘6’ (always). The global score was used in the analysis.
2 Coefficient alpha was .90 in this study.

3 *Control variables.* The participants’ age, health, tenure, position level, expected
4 retirement age and job involvement were used as control variables. *Age* of the workers was
5 included in the analysis as a control variable because many studies showed that this variable is
6 important in retirement studies and is linked to work engagement (e.g., Bal & De Lange, 2015).
7 *Self-rated health* of the participant has been included as it has been shown to be an important
8 resource that influences retirement age (Wang & Shultz, 2010), and was measured on a scale
9 ranging from ‘1’ (very poor health) to ‘5’ (very good health). *Job tenure* was also used as a
10 control as Ng and Feldman (2010) considered this variable in their meta-analysis of the effects of
11 age on job attitudes. *Position level* was included as a control variable because few studies have
12 found that levels of work engagement are higher among supervisors, compared to line staff (e.g.,
13 L. Lu, A. C. C. Lu, Gursoy, & Neale, 2016). Position level was measured as a continuous
14 variable because it referred to 5 different hierarchical levels, thus a higher level corresponded to
15 higher responsibilities and salary. Furthermore, as the decision to retire from work could also
16 depend on the *expected retirement age* (Potočnik, Tordera, & Peiró, 2010), we included this
17 variable as a control. Lastly, we included *job involvement* as it plays a crucial role in the
18 preference to retire or keep on working (Buyens, Van Dijk, Dewilde, & De Vos, 2009). Job
19 involvement was measured with two items of the Job Involvement Questionnaire developed by
20 Lodahl and Kejner (1965) ranging from ‘1’ (strongly disagree) to ‘4’ (strongly agree). The two
21 items used were, “The most important things that happen to me involve my work” and “The
22 major satisfaction in my life comes from my job”. Coefficient alpha was .72 in this study.

23 ***Data analyses***

1 PROCESS macro (Hayes, 2012), specifically model 7, was used to test our moderated-
2 mediation model (Preacher, Rucker, & Hayes, 2007), where the interaction between work ability
3 (independent variable) and older worker stereotypes (moderator) is related to desired retirement
4 (mediator) which is, in turn, related to work engagement (outcome). We specified 10,000
5 bootstrap samples to obtain robust estimates of standard errors and confidence intervals, and we
6 mean-centred independent and moderator variables. In addition, we included age, organisational
7 tenure, position level, self-rated health, expected retirement age and job involvement as control
8 variables.

9 **Results**

10 Mean values, standard deviations, inter-correlations, and alpha reliabilities of the
11 variables are presented in Table 1. All correlation results concerning the independent variable,
12 the moderator, the mediator and the dependent variable were in the expected direction, and all
13 the values showed a significant association. Specifically, results showed that work ability was
14 positively related to desired retirement age ($r = .17, p = .00$) and work engagement ($r = .25, p =$
15 $.00$), and negatively related to older worker stereotypes ($r = -.25, p = .00$). Furthermore, desired
16 retirement age was positively associated with work engagement ($r = .20, p = .00$), while older
17 worker stereotypes were negatively related to both desired retirement age ($r = -.10, p = .02$) and
18 work engagement ($r = -.18, p = .00$).

19 Table 2 reports the results of the moderated-mediation model that was tested. The
20 mediator variable model (desired retirement age) shows that work ability ($B = .23, p = .03$) had a
21 significant and positive effect on desired retirement. Furthermore, the interaction between work
22 ability and older worker stereotypes ($B = -.20, p = .03$) was significant and negatively affected
23 desired retirement age. According to our Hypothesis 1, older worker stereotypes moderated the

1 relationship between work ability and desired retirement age with a subsequent higher positive
2 relationship between work ability and desired retirement age for workers perceiving lower levels
3 of older worker stereotypes. Thus, Hypothesis 1 was confirmed. The dependent variable model
4 (work engagement) shows that desired retirement age positively affected work engagement ($B =$
5 $.05, p = .00$). According to Hypothesis 2, the indirect effect of work ability on work engagement
6 through desired retirement age depended on levels of older worker stereotypes. Specifically,
7 work ability had a stronger relationship with desired retirement in workers perceiving lower
8 levels of older worker stereotypes, and this, in turn, increased the levels of work engagement.
9 The lower part of Table 2 reports critical values of the conditional indirect effects. Results
10 indicated that the indirect effect of work ability on work engagement through desired retirement
11 age was significant at low and middle levels of older worker stereotypes. In particular, the effect
12 is slightly stronger for workers perceiving lower levels ($.02, CI = [.01, .05]$) and middle levels of
13 older worker stereotypes ($.01, CI = [.00, .03]$), compared to their colleagues who perceived
14 higher levels of older worker stereotypes ($.01, CI = [-.01, .01]$). Thus, our Hypothesis 2 was
15 confirmed. Figure 2 provides a more detailed plot of the interaction effect between work ability
16 and older worker stereotypes on desired retirement age, showing that workers perceiving lower
17 levels of older worker stereotypes presented a stronger positive relationship between work ability
18 and desired retirement age than workers reporting higher levels of older worker stereotypes.²

19 **Discussion**

20 The main aim of this study was to increase knowledge on how personal and psychosocial
21 resources could interact in determining the desired retirement age and work engagement of older
22 workers in the middle term. Specifically, we used a combination of two main theories to develop

² As suggested by a reviewer, we performed the analyses using expected retirement age as a mediator and desired retirement age as a control variable. The results showed that the moderated-mediation hypothesis was not confirmed, and no interaction effect was found between work ability and older worker stereotypes on expected retirement age.

1 and test our hypotheses. The Conservation of Resources theory, developed by Hobfoll (1989), is
2 a theory that makes use of more extensive resources to study the resource effects on a large
3 variety of outcomes, including work and retirement-related outcomes. The Resource-Based
4 Model for Retirement Adjustment, developed by Wang and colleagues (2011), is built on the
5 resources framework (i.e., Conservation of Resources Theory) with particular focus on
6 retirement-related outcomes (i.e., adjustment). As hypothesised, our results showed that work
7 ability increases the desired retirement age of older workers especially when they perceive low
8 or medium levels of age stereotypes and, in turn, increased work engagement eight months later.
9 This study showed that older worker stereotypes moderated the relationship between work ability
10 and desired retirement age; therefore, work ability was more positively related to desired
11 retirement age for workers perceiving low levels of older worker stereotypes, compared to their
12 colleagues who perceived higher levels of older worker stereotypes. Moreover, the indirect effect
13 of work ability on work engagement through desired retirement age depended on the levels of
14 perception of older worker stereotypes; hence, work ability further increased the desired
15 retirement age of older workers and, subsequently, increased their middle term work
16 engagement.

17 Furthermore, findings from this study showed that both work ability and older worker
18 stereotypes were related to work engagement. This is consistent with the existing literature,
19 which reports that both contextual (e.g., older worker stereotypes) and individual resources (e.g.,
20 work ability) are antecedents of work engagement (Bakker, Demerouti, & Sanz-Vergel, 2014).

21 According to Schaufeli and Taris (2014), there are more than forty resources that could
22 enhance work engagement of workers. Despite this, only one study has investigated work ability
23 as an antecedent of work engagement (Airilia et al., 2014). Thus our study enhances knowledge

1 on the relationship between these two constructs by also exploring the role played by desired
2 retirement age. Results of this study also showed that in the model proposed, older worker
3 stereotypes are not directly related to desired retirement age but they interact with work ability in
4 affecting desired retirement age. This enhances the importance of considering the joint effect of
5 work ability and older worker stereotypes in understanding the relationship with desired
6 retirement age in an older working population. This result addresses the call of McGonagle and
7 colleagues (2015), which posited that work ability is an important topic that needs additional
8 research. In this direction, our study highlighted the importance of working ability especially in
9 older workers as this construct is important when analysing the radical changes in how
10 retirement is enacted and carried out nowadays (Shultz & Wang, 2011).

11 Considering the effects of expected retirement age, results showed that it was, at the same
12 time, positively related to desired retirement age and negatively related to work engagement.
13 This result could be explained by the fact that expected and desired retirement age are different
14 constructs. In fact, if a worker desires to retire at an older age, he/she will report higher levels of
15 work engagement. Conversely, the expected retirement age refers to the age they could retire,
16 which could differ from the desired retirement age. In this case, a higher expected retirement age
17 would correspond to lower levels of work engagement, if older workers need to stay on at work
18 by law because they have not reached the minimum retirement age. Overall, these results
19 highlight the importance of measuring work engagement in the long term.

20 Moreover, this study underscored knowledge concerning issues related to desired
21 retirement age particularly in the public sector. Indeed, according to a large study conducted in a
22 subsample of 18 European Countries by Lamprianou (2012), employees working for state-owned
23 organisations desired to retire almost three years earlier, compared to private company

1 employees. Furthermore, this study enriched the literature on the antecedents and outcomes of
2 the desired retirement age. In fact, previous literature indicates that workplace determinants (in
3 this study measured as negative age stereotypes about older workers) can influence this variable
4 (Hofäcker, 2015).

5 *Practical Implications*

6 Our findings have implications for organisations. Firstly, the results of this study help
7 organisations in determining which factors could be focused on when older workers need to be
8 motivated to be healthy and productive. Indeed, our study results suggest that organisations
9 should focus on enhancing work ability, which is a potential target for organisational and
10 individual interventions (McGonagle et al., 2015). Secondly, in order to enhance motivation in
11 older workers, organisations should intervene in the stereotypes concerning older workers
12 through, for example, dedicated campaigns and by reviewing the existing norms (both implicit
13 and explicit). In fact, our results suggest that investing only personal resources (such as work
14 ability) would be pointless, if negative stereotypes are not addressed too. Investing in reducing
15 ageing stereotypes, such as, for example, by introducing new opportunities for intergenerational
16 contact could reduce prejudice (Abrams, Eller, & Bryant, 2006) and also older worker
17 stereotypes. Thirdly, our results support the need for public organisations to build and enhance
18 an organisational climate for successful ageing (Zacher & Yang, 2016), as this climate is
19 positively associated with focus on career opportunities, job satisfaction, organisational
20 commitment and motivation to continue working past the official retirement age. If the goal is to
21 keep older workers as long as possible in the workforce by decreasing the tendency for
22 (voluntary or involuntary) early retirement (Alcover, Crego, Guglielmi, & Chiesa, 2012), an

1 organisational climate for successful ageing can motivate workers so that, at least, they do not
2 consider anticipating the time of retirement.

3 Furthermore, the results of this study also suggest important considerations that could be
4 useful to inform policy-makers regarding the development of pension system reforms. In fact,
5 our results suggest that age itself (e.g., postponing the legal retirement age) is not the only
6 variable that should be taken into account to keep older workers at work, engaged and
7 productive. Heavy investments dedicated to enhancing the work ability of older workers and
8 information campaigns aimed at building awareness of the negative effects of stereotypes in the
9 workplace could be even more important in achieving the goal of keeping older workers engaged
10 at work.

11 ***Limitations and Future Research***

12 Despite the important contribution made by this study, we must acknowledge several
13 limitations. Firstly, we tested moderated mediation but we were able to collect data only twice,
14 while three measurements would have been more appropriate. Our antecedent and mediator were
15 measured at the same time, thus they could be partially affected by common method variance.
16 Despite this, according to Podsakoff, MacKenzie, Lee and Podsakoff (2003), procedural
17 strategies were implemented trying to control common method variance; specifically, the
18 respondents' anonymity was protected with respect to their employer, respondents were advised
19 that there were no right or wrong answers, and they were asked to answer questions as honestly
20 as possible. Furthermore, we tested for a moderated relationship, which should reduce the threat
21 of respondents "guessing" patterns. Accordingly, future studies should investigate these
22 relationships by measuring desired retirement age with a dedicated data collection process.
23 Secondly, our study considered only older worker stereotypes as moderator of the relationship

1 between work ability and desired retirement age. Future studies should also investigate whether
2 other types of stereotypes, such as poor performance stereotype, lower ability to learn stereotype,
3 or shorter tenure stereotype (Posthuma & Campion, 2009), are able to moderate the same
4 relationship. Considering the moderation effect, results showed relatively small effect sizes for
5 the interaction (i.e., 1% variance). However, it is hard to detect interactions using moderated
6 regression, particularly in non-experimental settings, such as field studies (Aguinis, 1995;
7 Jaccard, Turrisi, & Wan, 1990). Furthermore, as mentioned by McClelland and Judd (1993),
8 field study interactions typically account for an approx. 1%–3% variance.

9 Moreover, as literature has extensively investigated the antecedents of work ability,
10 future studies should consider which kind of work ability antecedents are able to trigger work
11 ability and, in turn, work engagement of older workers. Furthermore, our study was conducted
12 only on a national sample of the same public organisation. Thus, future studies should also test
13 the same relationship in other public sectors and in the private sector in order to increase the
14 external validity of the study. Despite many control variables being included in the investigated
15 model, no variables concerning finances of the respondents were investigated. Hence, future
16 studies should include this as a control variable. Lastly, we used the single item measure of work
17 ability, which is also self-reported. Despite establishing that this measure can be used as a
18 reliable indicator to assess the status and progress of work ability (e.g., Ahlstrom et al. 2010),
19 future studies might use a more extended measure of this construct by also including an objective
20 assessment (e.g., Tuomi et al., 1997).

21 **Conclusion**

22 This study makes an important contribution by addressing a gap in the literature about
23 how two different kinds of psychosocial and personal resources (older worker stereotypes and

1 work ability) interact in affecting desired retirement age and, in turn, work engagement in the
2 middle term. Specifically, we found that work ability increases desired retirement age of older
3 workers perceiving lower levels of older worker stereotypes, which, in turn, increases their
4 engagement at work. These findings have important implications for both practice and research,
5 and we encourage future research exploring which factors could enhance the postponement of
6 retirement and work engagement in older workers, in order to keep them longer at work, healthy
7 and productive.

8

9

1 **References**

- 2 Abrams, D., Eller, A., & Bryant, J. (2006). An age apart: The effects of intergenerational contact
3 and stereotype threat on performance and intergroup bias. *Psychology and Aging, 21*,
4 691-702.
- 5 Aguinis, H. (1995). Statistical power problems with moderated multiple regression in
6 management research. *Journal of Management, 21*, 1141-1158.
- 7 Ahlstrom, L., Grimby-Ekman, A., Hagberg, M., & Dellve, L. (2010). The work ability index and
8 single-item question: associations with sick leave, symptoms, and health—a prospective
9 study of women on long-term sick leave. *Scandinavian journal of work, environment &*
10 *health, 36*, 404-412.
- 11 Airila, A., Hakanen, J. J., Schaufeli, W. B., Luukkonen, R., Punakallio, A., & Lusa, S. (2014).
12 Are job and personal resources associated with work ability 10 years later? The mediating
13 role of work engagement. *Work & Stress, 28*, 87-105.
- 14 Alcover, C. M., Crego, A., Guglielmi, D., & Chiesa, R. (2012). Comparison between the Spanish
15 and Italian early work retirement models. A cluster analysis approach. *Personnel Review,*
16 *41*, 380-403.
- 17 ARAN (2013). Anzianità ed età del personale pubblico. Roma. Retrived from
18 [https://www.aranagenzia.it/attachments/article/5928/3_Anzianità%20ed%20età%20del%](https://www.aranagenzia.it/attachments/article/5928/3_Anzianità%20ed%20età%20del%20personale%20pubblico.pdf)
19 [20personale%20pubblico.pdf](https://www.aranagenzia.it/attachments/article/5928/3_Anzianità%20ed%20età%20del%20personale%20pubblico.pdf)
- 20 Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and work engagement: The
21 JD–R approach. Annual Reviews of *Organizational Psychology and Organizational*
22 *Behavior, 1*, 389-411.

- 1 Bal, P. M., & De Lange, A. H. (2015). From flexibility human resource management to
2 employee engagement and perceived job performance across the lifespan: A multisample
3 study. *Journal of Occupational and Organizational Psychology*, *88*, 126–154.
- 4 Bal, P. M., de Lange, A. H., Van der Heijden, B. I., Zacher, H., Oderkerk, F. A., & Otten, S.
5 (2015). Young at heart, old at work? Relations between age, (meta-) stereotypes, self-
6 categorization, and retirement attitudes. *Journal of Vocational Behavior*, *91*, 35-45.
- 7 Bal, A. C., Reiss, A. E. B., Rudolph, C. W., & Baltes, B. B. (2011). Examining positive and
8 negative perceptions of older workers: a meta-analysis. *The Journals of Gerontology*
9 *Series B: Psychological Sciences and Social Sciences*, *66*, 687–698.
- 10 Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2010). Psychometric properties of the Italian
11 version of the Utrecht Work Engagement Scale (UWES-9): A cross-cultural analysis,
12 *European Journal of Psychological Assessment*, *26*, 143-149.
- 13 Bayl-Smith, P. H., & Griffin, B. (2014). Age discrimination in the workplace: Identifying as a
14 late-career worker and its relationship with engagement and intended retirement age.
15 *Journal of Applied Social Psychology*, *44*, 588-599.
- 16 Bertolino, M., Truxillo, D. M., & Fraccaroli, F. (2013). Age effects on perceived personality and
17 job performance. *Journal of Managerial Psychology*, *28*, 867–885.
- 18 Boehm, S. A., Kunze, F., & Bruch, H. (2014). Spotlight on age-diversity climate: The impact of
19 age-inclusive HR practices on firm-level outcomes. *Personnel Psychology*, *67*, 667-704.
- 20 Buyens, D., Van Dijk, H., Dewilde, T., & De Vos, A. (2009). The aging workforce: Perceptions
21 of career ending. *Journal of Managerial Psychology*, *24*, 102-117.

- 1 Chiesa, R., Toderi, S., Dordoni, P., Henkens, K., Fiabane, E. M., Setti, I. (2016). Older workers:
2 stereotypes and occupational self-efficacy. *Journal of Managerial Psychology*, 31, 1152-
3 1166.
- 4 Chiu, W. C. K., Chan, A. W., Snape, E., & Redman, T. (2001). Age stereotypes and
5 discriminatory attitudes towards older workers: An East-West comparison. *Human*
6 *relations*, 54, 629-661.
- 7 D'Addio, A. C., Keese, M., & Whitehouse, E. (2010). Population ageing and labour markets.
8 *Oxford review of economic policy*, 26, 613-635.
- 9 De Croon, E., Sluiter, J., Kuijer, P. P., & Frings-Dresen, M. (2005). The effect of office concepts
10 on worker health and performance: a systematic review of the literature. *Ergonomics*, 48,
11 119-134.
- 12 Dordoni, P., & Argentero, P. (2015). When Age stereotypes are employment barriers: a
13 conceptual analysis and a literature review on older workers stereotypes. *Ageing*
14 *International*, 40, 393-412.
- 15 Feldt, T., Hyvönen, K., Mäkikangas, A., Kinnunen, U., & Kokko, K. (2009). Development
16 trajectories of Finnish managers' work ability over a 10-year follow-up period.
17 *Scandinavian Journal of Work, Environment & Health*, 35, 37-47.
- 18 Frins, W., van Ruysseveldt, J., van Dam, K., & van den Bossche, S. N. J. (2016). Older
19 employees' desired retirement age: A JD-R perspective. *Journal of Managerial*
20 *Psychology*, 31, 34-49.
- 21 Gaillard, M-. & Desmette, D. (2010). (In)validating Stereotypes about older workers influences
22 their intentions to retire early and to learn and develop. *Basic and Applied Social*
23 *Psychology*, 32, 86-98.

- 1 Guglielmi, D., Avanzi, L., Chiesa, R., Mariani, M. G., Bruni, I., & Depolo, M. (2016). Positive
2 aging in demanding workplaces: The gain cycle between job satisfaction and work
3 engagement. *Frontiers in Psychology, 7*, 1224.
- 4 Greenberg, J., Schimel, J., & Martens, A. (2002). Ageism: Denying the face of the future. In T.
5 D. Nelson (Ed.), *Ageism: Stereotyping and prejudice against older persons* (pp. 27–48).
6 Cambridge, MA: MIT Press.
- 7 Hamilton, D. L., & Sherman, S. J. (1994). Stereotypes. In R. S. Wyer Jr., & TK Srull (Eds.),
8 *Handbook of social cognition* (pp. 1-68), Hillsdale, NJ: Erlbaum.
- 9 Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation,*
10 *moderation, and conditional process modeling.* Retrieved from
11 <http://www.afhayes.com/public/process2012.pdf>.
- 12 Henkens, K. (2005). Stereotyping older workers and retirement: the managers' point of view.
13 *Canadian Journal of Aging Revue Canadienne du Vieillissement, 24*, 353-366.
- 14 Henkens, K. & Leenders, M. (2010). Burnout and older workers' intentions to retire.
15 *International Journal of Manpower, 31*, 306-321.
- 16 Henkens, K., & Tazelaar, F. (1997). Explaining retirement decisions of civil servants in the
17 Netherlands: Intentions, behaviour and the discrepancy between the two. *Research on*
18 *Aging, 19*, 139–173.
- 19 Hertel, G., Van der Heijden, B. I. J. M., de Lange, A. H., & Deller, J. (2013). Facilitating age
20 diversity in organizations—part I: challenging popular misbeliefs. *Journal of Managerial*
21 *Psychology, 28*, 729-740.
- 22 Hilton, J. L. & W. Von Hippel (1996). Stereotypes. *Annual Review of Psychology, 47*, 237– 271.

- 1 Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress.
2 *American psychologist*, 44, 513-524.
- 3 Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of general*
4 *psychology*, 6, 307-324.
- 5 Hobfoll, S. E., Johnson, R. J., Ennis, N., & Jackson, A. P. (2003). Resource loss, resource gain,
6 and emotional outcomes among inner city women. *Journal of personality and social*
7 *psychology*, 84, 632-643.
- 8 Hobfoll, S. E., & Wells, J. D. (1998). Conservation of resources, stress, and aging: Why do some
9 slide and some spring? In J. Lomranz (Ed.), *Handbook of aging and mental health: An*
10 *integrative approach* (pp. 121–134). New York, NY: Plenum Press.
- 11 Hofäcker, D. (2015). In line or at odds with active ageing policies? Exploring patterns of
12 retirement preferences in Europe. *Ageing and Society*, 35, 1529-1556.
- 13 Ilmarinen, J., Tuomi, K., & Klockars, M. (1997). Changes in the work ability of active
14 employees over an 11-year period. *Scandinavian Journal of Work, Environment and*
15 *Health*, 23, 49-57. Retrieved from <http://www.jstor.org/stable/40966691>
- 16 Jaccard, J., Turrisi, R., & Wan, C. K. (1990). *Interaction effects in multiple regression*. Newbury
17 Park, CA: Sage.
- 18 Kanfer, R., Beier, M. E., & Ackerman, P. L. (2013). Goals and motivation related to work in
19 later adulthood: An organizing framework. *European Journal of Work and*
20 *Organizational Psychology*, 22, 253-264.
- 21 Karpinska, K., Henkens, K., & Schippers, J. (2013). Hiring retirees: impact of age norms and
22 stereotypes. *Journal of Managerial Psychology*, 28, 886-906.

- 1 Koolhaas, W., Van Der Klink, J. J., de Boer, M. R., Groothoff, J. W., & Brouwer, S. (2014).
2 Chronic health conditions and work ability in the ageing workforce: the impact of work
3 conditions, psychosocial factors and perceived health. *International archives of*
4 *occupational and environmental health*, 87, 433-443.
- 5 Koolhaas, W., Van Der Klink, J. J., Groothoff, J. W., & Brouwer, S. (2012). Towards a
6 sustainable healthy working life: Associations between chronological age, functional age
7 and work outcomes. *European Journal of Public Health*, 22, 424-429.
- 8 Kosloski, K., Ekerdt, D., & DeViney, S. (2001). The role of job-related rewards in retirement
9 planning. *Journal of Gerontology, Series B: Psychological Sciences and Social Sciences*,
10 56, 160–169.
- 11 Lamprianou, I. (2012). Determinants of Early Retirement in the European Union. *Journal of*
12 *Transnational Management*, 17, 137-154.
- 13 Leung, C. S. Y., & Earl, J. K. (2012). Retirement resources inventory: Construction, factor
14 structure and psychometric properties. *Journal of Vocational Behavior*, 81, 171–182.
- 15 Lodahl, T., & Kejner, M. (1965). The definition and measurement of job involvement. *Journal of*
16 *Applied Psychology*, 49, 24-33.
- 17 Lu, L., Lu, A. C. C., Gursoy, D., & Neale, N.R. (2016). Work engagement, job satisfaction, and
18 turnover intentions: A comparison between supervisors and line-level employees.
19 *International Journal of Contemporary Hospitality Management*, 28, pp.737-761.
- 20 Maurer, T. J., Barbeite, F. G., Weiss, E. M. & Lippstreu, M. (2008). New measures of
21 stereotypical beliefs about older workers' ability and desire for development: Exploration
22 among employees age 40 and over. *Journal of Managerial Psychology*, 23, 395-418.

- 1 McCarthy, J., Heraty, N., Cross, C., & Cleveland, J. N. (2014). Who is considered an ‘older
2 worker’? Extending our conceptualisation of ‘older’ from an organisational decision
3 maker perspective. *Human Resource Management Journal*, 24, 374-393.
- 4 McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and
5 moderator effects. *Psychological bulletin*, 114, 376-390.
- 6 McGonagle, A. K., Fisher, G. G., Barnes-Farrell, J. L., & Grosch, J. W. (2015). Individual and
7 work factors related to perceived work ability and labor force outcomes. *Journal of*
8 *Applied Psychology*, 100, 376-398.
- 9 Mein, G., Martikainen, P., Stansfield, S., Brunner, E., Furhrer, R., and Marmot, M. (2000).
10 Predictors of early retirement in British civil servants. *Age Ageing*, 29, 529–536.
- 11 Ng, T. W. H., & Feldman, D. C. (2015). The moderating effects of age in the relationships of
12 job autonomy to work outcomes. *Work, Aging and Retirement*, 1, 64-78.
- 13 Oakman, J. & Wells, Y. (2013). Retirement intentions: what is the role of push factors in
14 predicting retirement intentions?. *Ageing and Society*, 33, 988-1008.
- 15 OECD (2018). *OECD Labour Force Statistics 2017*. Paris: OECD Publishing.
- 16 Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method
17 biases in behavioral research: A critical review of the literature and recommended
18 remedies. *Journal of Applied Psychology*, 88, 879-903.
- 19 Posthuma, R. A. & Campion, M. A. (2009). Age stereotypes in the workplace: Common
20 stereotypes, moderators, and future research directions. *Journal of Management*, 35, 158–
21 188.

- 1 Potočnik, K., Tordera, N., & Peiró J. M. (2010). The influence of the early retirement process on
2 satisfaction with early retirement and psychological well-being. *International Journal of*
3 *Aging and Human Development*, 70, 251-273.
- 4 Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation
5 hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42,
6 185-227.
- 7 Robroek, S. J., Van Lenthe, F. J., Van Empelen, P., & Burdorf, A. (2009). Determinants of
8 participation in worksite health promotion programmes: a systematic review.
9 *International Journal of Behavioral Nutrition and Physical Activity*, 6, 6-26.
- 10 Salonen, P., Arola, H., Nygård, C. H., Huhtala, H., & Koivisto, A. M. (2003). Factors associated
11 with premature departure from working life among ageing food industry employees.
12 *Occupational medicine*, 53, 65-68.
- 13 Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement
14 with a short questionnaire a cross-national study. *Educational and psychological*
15 *Measurement*, 66, 701-716.
- 16 Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement
17 of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal*
18 *of Happiness studies*, 3, 71-92.
- 19 Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the Job Demands-Resources model:
20 implications for improving work and health. In G. F. Baur, & O. Hämming (Eds.),
21 *Bridging Occupational, Organizational and Public Health: A transdisciplinary approach*
22 (43-67). Dordrecht: Springer.

- 1 Schultz, A. B., Chen, C. Y., & Edington, D. W. (2009). The cost and impact of health conditions
2 on presenteeism to employers. *Pharmacoeconomics*, 27, 365-378.
- 3 Schulz, R., Noelker, L. S., Rockwood, K., & Sprott, R. L. (2006). *The Encyclopedia of Aging*
4 (4th ed). New York, NY: Springer Publishing.
- 5 Shultz, K. S., & Wang, M. (2011). Psychological perspectives on the changing nature of
6 retirement. *American Psychologist*, 66, 170.
- 7 Sell, L., Bultmann, U., Rugulies, R., Villadsen, E., Faber A., & Soogard, K. (2009). Predicting
8 long-term sickness absence and early retirement pension from self-reported work ability.
9 *International archives of occupational and environmental health*, 82, 1133-1138.
- 10 Sluiter, J. K., & Frings-Dresen, M. H. (2008). Quality of life and illness perception in working
11 and sick-listed chronic RSI patients. *International archives of occupational and*
12 *environmental health*, 81, 495-501.
- 13 Sun, L., & Pan, W. (2008). HR practices perceptions, emotional exhaustion, and work outcomes:
14 A conservation-of-resources theory in the Chinese context. *Human Resource*
15 *Development Quarterly*, 19, 55-74.
- 16 Szinovacz, M. E., Martin, L., & Davey, A. (2014). Recession and expected retirement age:
17 Another look at the evidence. *The Gerontologist*, 54, 245-257.
- 18 State General Accounting Department [http://www.corriere.it/economia/16_gennaio_15/niente-
turnover-2016-l-eta-media-dipendenti-pubblici-oltre-50-anni-7beba7f2-bb92-11e5-b830-
d9b0b8f21c0e.shtml](http://www.corriere.it/economia/16_gennaio_15/niente-
19 turnover-2016-l-eta-media-dipendenti-pubblici-oltre-50-anni-7beba7f2-bb92-11e5-b830-
20 d9b0b8f21c0e.shtml)
- 21 Taylor, P., Steinberg, M., & Walley, L. (2000). Mature age employment: Recent developments
22 in public policy in Australia. *Australasian Journal on Ageing*, 19, 125-129.

- 1 Tengland, P. A. (2011). The concept of work ability. *Journal of Occupational Rehabilitation, 21*,
2 275–285.
- 3 Topa, G., & Alcover, C. M. (2015). Psychosocial factors in retirement intentions and adjustment:
4 A multi-sample study. *Career Development International, 20*, 384-408.
- 5 Topa, G., Jiménez, I., Valero, E. Ovejero, A. (2017). Resource Loss and Gain, Life Satisfaction,
6 and Health Among Retirees in Spain, *Journal of Aging and Health, 29*, 415-436.
- 7 Tuomi, K., Ilmarinen, J., Jahkola, A., Katajarinne, L., & Tulkki, A. (1998). *Work Ability Index*
8 *(2nd rev. ed.)*. Helsinki, Finland: Finnish Institute of Occupational Health.
- 9 Van Dalen, H.P., Henkens, K. & Schippers, J. (2009). Dealing with older workers in Europe: a
10 comparative survey of employers' attitudes and actions. *Journal of European Social*
11 *Policy, 19*, 47-60.
- 12 Van Dalen, H.P., Henkens, K. & Schippers, J. (2010). Productivity of older workers: perceptions
13 of employers and employees, *Population and Development Review, 36*, 309-330.
- 14 von Bonsdorff, M. B., Seitsamo, J., Ilmarinen, J., Nygård, C. H., von Bonsdorff, M. E., &
15 Rantanen, T. (2011). Work ability in midlife as a predictor of mortality and disability in
16 later life: a 28-year prospective follow-up study. *Canadian medical association journal,*
17 *183*, E235-E242.
- 18 Walker, D. M. (2007). Older workers: Some best practices and strategies for engaging and
19 retaining older workers (GAO-07-433T). Washington, DC: U.S. Government
20 Accountability Office. Retrieved from <http://www.gao.gov/new.items/d07433t.pdf>
- 21 Wang, M. (2007). Profiling retirees in the retirement transition and adjustment process:
22 Examining the longitudinal change patterns of retirees' psychological well-being. *Journal*
23 *of Applied Psychology, 92*, 455-474.

- 1 Wang, M., Henkens, K., & van Solinge, H. (2011). Retirement adjustment: A review of
2 theoretical and empirical advancements. *American Psychologist*, *66*, 204-213.
- 3 Wang, M., & Shi, J. (2014). Psychological research on retirement. *Annual review of psychology*,
4 *65*, 209-233.
- 5 Wang, M., & Shultz, K. S. (2010). Employee retirement: A review and recommendations for
6 future investigation. *Journal of Management*, *36*, 172-206.
- 7 Whitley, B., Jr., & Kite, M. E. (2006). *The psychology of prejudice and discrimination*.
8 Belmont: Thomson Wadsworth.
- 9 Wöhrmann, A. M., Fasbender, U., & Deller, J. (2017). Does more respect from leaders postpone
10 the desire to retire? understanding the mechanisms of retirement decision-
11 making. *Frontiers in Psychology*, *8*, 1400.
- 12 Zacher, H. & Yang, Y. (2016). Organizational Climate for Successful Aging. *Frontiers in*
13 *Psychology*, *7*, 1007.
- 14 Zaniboni, S. (2015). The Interaction Between Older Workers' Personal Resources and Perceived
15 Age Discrimination Affects the Desired Retirement Age and the Expected Adjustment.
16 *Work, Aging and Retirement*, *1*, 266-273.
- 17 Zaniboni, S., Fraccaroli, F., & Sarchielli, G. (2010). Zaniboni, S., Sarchielli, G., & Fraccaroli, F.
18 (2010). How are psychosocial factors related to retirement intentions? *International*
19 *Journal of Manpower*, *31*, 271–285.

1

2 Table 1.

3 *Means, Standard Deviations, and Intercorrelations among Study Variables*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Age	55.37	3.43	-									
2. Tenure	22.90	9.39	.27**	-								
3. Position level	2.86	1.10	.19**	.01	-							
4. Self-rated health	3.79	.94	-.05	-.06	.15**	-						
5. Expected retirement age	64.40	3.02	-.06	-.26**	.19**	.07	-					
6. Job involvement	2.13	.89	.05	-.07	.27**	.07	.15**	(.72)				
7. Work ability	7.63	1.82	-.15**	-.13**	.11*	.39**	.10*	.18**	-			
8. Older workers stereotypes	2.93	1.00	.07	.11**	.06	-.16**	-.07	-.09*	-.25**	(.78)		
9. Desired retirement age	60.36	4.72	.11**	-.14**	.17**	.15**	.45**	.23**	.17**	-.10*	-	
10. Work engagement	4.43	1.34	-.00	-.01	.15**	.17**	-.03	.22**	.25**	-.18**	.20**	(.90)

4 *Note:* $N = 563$. Cronbach's alpha in brackets on the diagonal.5 * $p < .05$; ** $p < .01$

WORK ABILITY, OLDER WORKERS STEREOTYPES, DESIRED RETIREMENT AGE AND WORK ENGAGEMENT

1 Table 2.
2 Results of the moderated-mediation model

Variable	Model of desired retirement age (M)		Model of work engagement (Y)	
	<i>Coefficient</i>	<i>SE</i>	<i>Coefficient</i>	<i>SE</i>
Age	.22**	.05	-.01	.02
Tenure	-.03	.02	.00	.01
Position level	.07	.17	.11*	.05
Self-rated health	.42*	.20	.09	.06
Expected retirement age	.63**	.06	-.07**	.02
Job involvement	.69**	.20	.22**	.06
Work ability (X)	.23*	.11	.13**	.03
Older workers stereotypes (W)	-.12	.18		
Work ability x Older workers stereotypes	-.20*	.09		
Desired retirement age (M)			.05**	.01
Model of M Summary	R ² = .28**			
Model of Y Summary			R ² = .14**	
<i>Conditional indirect effect of work ability (X) on work engagement (Y) through desired retirement age (M) at values of older workers stereotypes (W)</i>				
<i>Older workers stereotypes</i>	<i>Effect</i>	<i>Boot SE</i>	<i>Boot 95% CI</i>	
Low levels	.02	.01	.01 - .05	

WORK ABILITY, OLDER WORKERS STEREOTYPES, DESIRED RETIREMENT AGE
AND WORK ENGAGEMENT

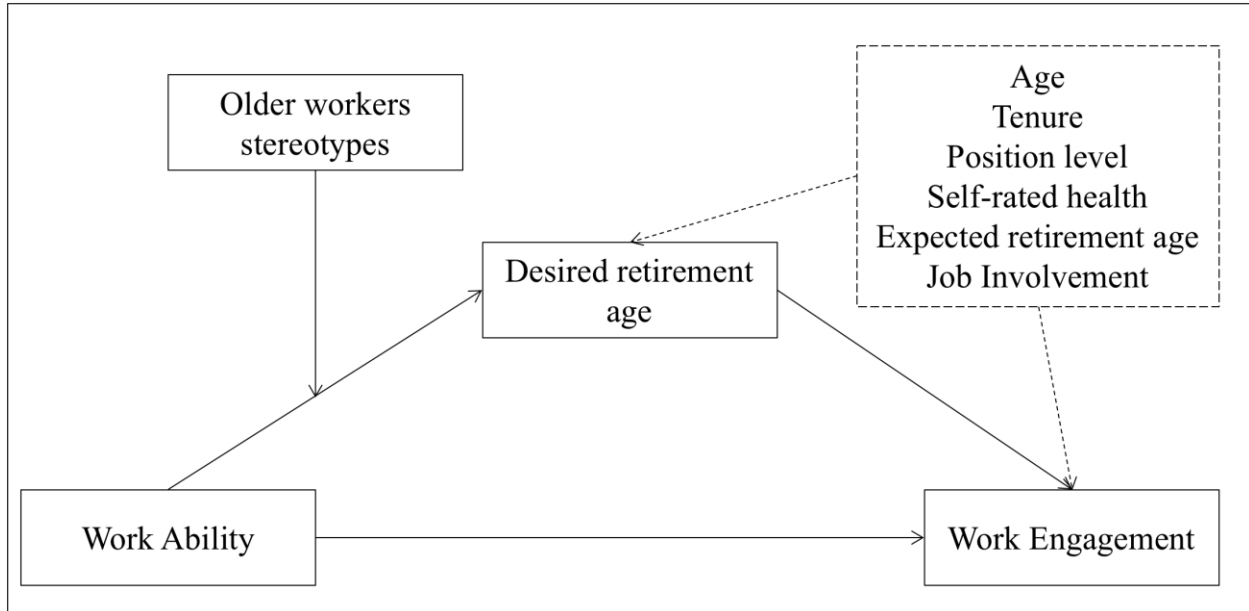
Middle levels	.01	.01	.00 - .03
High levels	.01	.01	-.01 - .01

1 *Note: N = 563.*

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

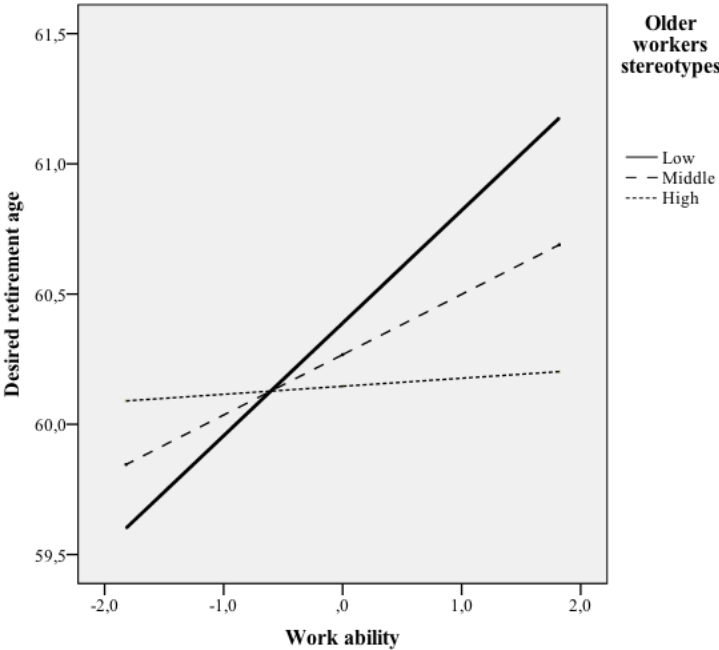
WORK ABILITY, OLDER WORKERS STEREOTYPES, DESIRED RETIREMENT AGE AND WORK ENGAGEMENT

1 *Figure 1. Moderated-mediation model*



WORK ABILITY, OLDER WORKERS STEREOTYPES, DESIRED RETIREMENT AGE AND WORK ENGAGEMENT

1 *Figure 2. Work ability and older workers stereotypes interact to affect desired retirement age.*



2