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Eduardo Oliveira, Carlos Cabral Cardoso,

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Stereotype threat and older worker's attitudes: a mediation model

Eduardo Oliveira

CEDH – Centro de Estudos em Desenvolvimento Humano,
Faculdade de Educação e Psicologia, Universidade Católica Portuguesa,
Porto, Portugal, and

Carlos Cabral Cardoso

Faculty of Economics, University of Porto, Porto, Portugal

Abstract

Purpose – Taking a social identity approach, the purpose of this paper is to examine the extent to which age-based stereotype threat mediates the relationships between older workers' negative age-based metastereotypes and two negative work attitudes: organizational disidentification and work disengagement.

Design/methodology/approach – A two-wave cross-sectional design was adopted to collect data from 423 blue-collar older workers of the Portuguese manufacturing sector. Structural equation modeling was used to test the mediation model.

Findings – The analyses show that age-based stereotype threat partially mediates the relationship between negative age-based metastereotypes and negative work attitudes. Moreover, findings suggest that older workers respond to negative age-based metastereotypes through threat reactions, and undesirable work attitudes.

Originality/value – This paper contributes to the literature by showing the importance of negative age-based metastereotypes and age-based stereotype threat in workplace dynamics. It also provides evidence that age threats impair the relationship older workers keep with their organization and their work.

Keywords Quantitative, Age-based stereotype threat, Negative age-based metastereotypes, Organizational disidentification, Work disengagement

Paper type Research paper

Introduction

In recent few years, declining fertility rates and an increased life expectancy are reversing the EU-28 age pyramid leading to a growing relative weight of older people (Boehm *et al.*, 2014). As more older people are available to work, older workers become a relevant segment of today's workforce (Kulik, 2014a), but higher employment participation rates of older workers take place at a time of increasing competitive and financial pressures driven by globalization and the growing use of information and communication technologies. Several studies have found that older workers were particularly hit by this process and make the most vulnerable group to the effects of obsolescence, the continuous organizational change and job insecurity (e.g. White and Smeaton, 2016) suggesting that their work situation is moving in an unfavorable direction (White, 2012). Older workers were found to be enduring more pressured within working environments and losing out financially relative to younger employees (Smeaton and White, 2017), a context prone to older workers' disenchantment and deteriorating social and employment relations (White, 2012). Moreover, there is evidence of declining organizational commitment and overall job attitudes of older workers, relative to younger ones (White, 2012; White and Smeaton, 2016), which is likely to weaken the older workers' position, and challenge their self-confidence and psychological empowerment, ultimately leading them to consider retirement (Schermuly *et al.*, 2017) or risk being relegated to lower-quality jobs. On the other hand, perceived discrimination toward older workers was found to be negatively associated with the desired retirement age (Schermuly *et al.*, 2014), and positively with the intention to

retire (Snape and Redman, 2003). In other words, ageist workplaces represent a serious challenge to human resource management (HRM) efforts to retain older workers and to elicit their performance and well-being (Kooij *et al.*, 2013), particularly in a context of prevalent performance-related HRM practices. The shift toward the effort-reward relationship in HRM does not preclude management discretion in performance assessment. Despite the extensive provision of performance indicators, performance measures inevitably rely on the managers' own subjective assessments and perceptions of the characteristics of older workers, making them permeable to their own stereotypes of older workers (Principi *et al.*, 2015).

In the current ageist work environment, negative stereotypes about older workers are widespread and may present several challenges to their targets (Posthuma and Campion, 2009). Supervisors, for instance, were found to often hold stereotypical views on older workers, which might lead to discrimination in promotion or training decisions (Maurer *et al.*, 2003), and there is evidence that the "manager's age moderates the age stereotypes that managers hold about workers, in that managers have a more positive attitude toward workers of similar age," concluded Principi *et al.* (2015, p. 816). Yet, despite these recent contributions, it is apparent that much of the literature on HR policies and practices for older workers remains "atheoretical and prescriptive in nature" (Kooij *et al.*, 2014, p. 2195) and not much is known about the way HR managers cope with an aging workforce and the actual policies and practices adopted to tackle this problem.

Negative workplace stereotypes about older workers may not only prevent older workers from getting fully engaged at work and identified with the organization but also foster intergenerational tensions (North and Fiske, 2015). Those tensions are likely to be intensified in ageist work settings marked by negative beliefs about what other age groups think of one's ingroup, a belief best described as negative age-based metastereotypes (Finkelstein *et al.*, 2015). Moreover, older workers awareness of negative beliefs about their age group may raise concerns of being stigmatized nurturing their stereotype threat experience (Kulik *et al.*, 2016; Roberson and Kulik, 2007; Walton *et al.*, 2015). When that is the case, age threats in the organizational environment are more likely to be perceived by older workers as a work stressor rather than a challenge (Dijkstra and Homan, 2016), and thus these workers' well-being and performance may be at risk. Taking into consideration the wide range of negative age stereotypes about older workers (Posthuma and Campion, 2009) and the graying of the workforce (Kulik, 2014a), it is admitted that age-based stereotype threat is likely to be part of many older workers' experiences (Kalokerinos *et al.*, 2014). Stereotype threat is best understood as the concern that others might judge oneself on the basis of a negative stereotype about one's ingroup (Steele *et al.*, 2002). The mainstream stereotype threat research has mainly examined performance decrements in the lab context, but some field-based studies conducted in workplace settings have examined the relationship between stereotype threat and job attitudes such as job satisfaction and organizational commitment, turnover intentions (von Hippel *et al.*, 2013), as well as workers' burnout and engagement (Bedyńska and Żołnierczyk-Zreda, 2015). Stereotype threat theory has also suggested that threat is associated with the arousal of individual coping mechanisms, like disengagement and disidentification from the stereotyped domain (Steele *et al.*, 2002). Given that job withdrawal behaviors (e.g. absenteeism) arise on the basis of psychological withdrawal responses, understanding the work disengagement process is particularly important (Block *et al.*, 2011). Furthermore, prolonged stereotype threat experience may cause chronic disengagement from threatening activities, and given its recursive nature, it may pave the way for long-term consequences such as disidentification as stereotyped workers are likely to feel that their organization does not value their contribution. Briefly, work disengagement and organizational disidentification are relevant issues for researchers and managers who strive to include identity-based approaches in their age diversity management strategy. It is therefore imperative to analyze antecedents and attitudinal outcomes of age-based stereotype threat in the workplace, as it may affect older workers well-being.

Building on the social identity approach (Tajfel and Turner, 1979; Turner *et al.*, 1987) and the age-based stereotype literature (Finkelstein *et al.*, 2015), this study examines the relationship between older workers negative age-based metastereotypes and age-based stereotype threat. It is argued that although negative age-based metastereotypes are likely to increase one's vulnerability to stereotype threat (Finkelstein *et al.*, 2015; Steele *et al.*, 2002), these are distinct constructs. The integration of these two constructs on a nomological network of age-based threat in the workplace is suggested. Moreover, following recent calls on the need to assess the relationship between experiences of stereotype threat and disengagement/disidentification in the workplace (Walton *et al.*, 2015), the role played by age-based stereotype threat in the relationship between negative age-based metastereotypes and negative work attitudes is examined, namely regarding older workers' work disengagement and organizational disidentification. By extension, the relationship between negative age-based metastereotypes and these two work attitudes is also looked at. Hence, this study seeks to test the mediation role of age-based stereotype threat in the relationship between age metabeliefs and work attitudes.

In sum, this study aims to provide a contribution to better understanding the age-based stereotype threat nomological network. This network is comprised of several stereotype threat forms, antecedents, boundary conditions, attitudinal and behavioral consequences (Kray and Shirako, 2011; Shapiro, 2011; Steele *et al.*, 2002). Also, it specifies linkages and theoretical propositions between stereotype threat and each relevant construct. Particularly relevant to this study are the negative age-based metastereotypes and two negative work attitudes: work disengagement and organizational disidentification. Briefly, this study examines the interrelationships between four constructs of the stereotype threat nomological network. Research on workplace ageism has highlighted contextual effects in certain industries, such as finance or information technology based on the assumption that age stereotypes are stronger in these settings (Posthuma and Campion, 2009). As the manufacturing sector appears to have been largely ignored by ageism research, this study attempts to shed light on the age-based stereotype threat experiences in this blue-collar context. Given this physically demanding context, older workers vulnerability to stereotype threat are likely to be heightened in these organizational settings. Moreover, the manufacturing sector has an important role in the Portuguese economy accounting for 16.4 percent of total employment (Ministério da Economia, 2016). In terms of implications, by putting older workers experience of age-based stereotype threat under the spotlight, this study seeks to broaden the scope of stereotype threat research and raise managers' awareness of the potential harmful effects of negative workplace age stereotypes about older workers. In practice, extending the productive working life requires not only managerial actions to motivate and accommodate older workers' needs (Hennekam and Herrbach, 2015) but also to deter age biases that may discourage these workers from remaining in the workforce (Bal *et al.*, 2015). Researching these issues will hopefully help HR managers increase the effectiveness of their age diversity management policies and practices.

Theoretical framework
The social identity approach is an expression used to refer to hypotheses and contributions generated by the social identity theory (Tajfel and Turner, 1979) and the self-categorization theory (Turner *et al.*, 1987). Social identity theory posits that an individual has not one personal self, but two distinct aspects of the self-concept: personal identity and social identity (Tajfel and Turner, 1979). Personal identity refers to people's internalized definition of themselves as individuals, whereas social identity refers to "that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership"

(Tajfel, 1978, p. 63). Hence, social identity helps individuals to define themselves and evaluate who they are and how to behave, and to predict how they will be treated by others.

Along with social identity theory, self-categorization theory (Turner *et al.*, 1987) is a fundamental part of the social identity approach. Self-categorization theory postulates that individuals self-categorize and categorize others into groups as long as categorization dimensions are meaningful and salient to them. In this way, the diversity of attributes like age contributes to separate the population of social units (e.g. organizations) in classes such as "old" and "young." Furthermore, self-categorization theory is also interested in addressing the consequences of perceiving people at the group level since group categorizations shape one's social behavior. In fact, empirical evidence has suggested that categorization processes raise potential for conflicts, stereotyping and discrimination among organizational members (van Knippenberg *et al.*, 2004).

In a nutshell, the social identity approach emphasizes that group memberships, self-categorization and social identities play a crucial role in intergroup relations as they shape individuals' perceptions, attitudes and behaviors. Individuals are intrinsically motivated to achieve and maintain a positive social identity and consequently they identify with groups that enable their self-enhancement, and thus increase their self-esteem. It was from these tenets that researchers generated several of the building propositions of the stereotype threat framework, thereby contributing to explain the extent to which ageism influences older workers day-to-day work life.

Workplace age stereotypes about older workers
Workplace age stereotypes describe widely shared beliefs and expectations about workers and their organizational behavior based on their chronological age or perceived age (Posthuma and Campion, 2009). Recent meta-analytical work showed that older workers are usually seen as less motivated, more resistant and less willing to change, less trusting, less healthy, more vulnerable to work-family imbalance and generally less willing to participate in training (Ng and Feldman, 2012). Interestingly, research has failed to provide consistent empirical support to almost all common negative stereotypes reported in the literature which seems to suggest that some negative stereotypes about older workers have little empirical grounds (Ng and Feldman, 2012). Yet, older workers are likely to wonder whether managers and co-workers endorse those stereotypes and fear being judged and treated according to them. The harmful consequences of such misleading beliefs are apparent: they provide the basis for prejudiced attitudes and discriminatory behaviors in both personnel decisions and everyday life in the organization; and on a micro-level, they lay the foundations for experiences of age-based stereotype threat (Kalokerinos *et al.*, 2014). Moreover, despite raising awareness and all the efforts being made to deter attitudes and discriminatory practices against older workers, that is to say, workplace ageism, negative age stereotypes and age discrimination seem to endure (Ng and Feldman, 2012). Ageist workplaces pose a serious challenge to older workers retention since perceived discrimination toward older workers was associated with high levels of continuance commitment and a subsequent increase in intention to retire (Snape and Redman, 2003). Together with the worries prompted by an ageist organizational setting, the older workers perceived lack of job opportunities and awareness of the high costs of leaving the organization are likely to lead older workers to feel "trapped" in the organization.

In sum, social exchanges between co-workers in ageist workplaces are often rooted in negative age-related stereotypes about older workers. Some researchers claimed that, in order to understand ageist workplace dynamics, one's beliefs of the stereotypes of the ingroup hold by members of outgroups are just as important as the stereotypes hold of their own group (Judd *et al.*, 2005). Therefore, if the age stereotyping research agenda is to be moved forward, a better understanding is needed of what older workers believe other age groups think of their own age group.

Negative age-based metastereotypes
Age-based metastereotypes are individual beliefs concerning stereotypical beliefs that other age groups hold about the individual's ingroup. This type of metabeliefs is in part responsible for older workers awareness of the workplace stereotypes held by other age groups regarding them (Shiu *et al.*, 2015). Indeed, one's beliefs about how others perceive and evaluate one's ingroup are just as important as evaluating others in the workplace (King *et al.*, 2008). Moreover, individuals who are aware of the stereotypes others hold regarding their ingroup tend to expect others to perceive them in stereotypical terms (Krueger, 1996). This way, metastereotypes influence older workers' sensemaking process in the workplace environment, in particular regarding the quality of intergenerational contact. Hence, metastereotypes contribute to the construction of a relational knowledge structure that affects older workers' mindset and, therefore, influences the way older workers interpret the workplace conditions (Shiu *et al.*, 2015).

Metastereotypes, like stereotypes, are beliefs derived from everyday social perceptions at work that involve social groups, whereas stereotype threats refer to the reaction elicited by the awareness of a negative stereotype about the ingroup (Finkelstein *et al.*, 2015). The age-based metastereotype activation model predicts that workers may interpret metastereotypes as either positive or negative and as threats or challenges. Still, the concern elicited by a negative stereotype about one's age group is probably preceded by the belief that an outgroup holds a negative stereotype about one's group. Thus, in line with Voyles *et al.* (2014), negative age-based metastereotypes should be viewed as first-order triggers of the stereotype threat process that may ultimately lead to negative work attitudes. In other words, stereotype threats may be considered as potential emotional and/or behavioral outcomes of metastereotyping and so it would be more appropriate to describe them as metastereotype threats rather than stereotype threats. Hence, research on workplace ageism would benefit from a separated yet articulated framing of these two processes in order to hamper their negative consequences both regarding workers psychological well-being and organizational outcomes (Finkelstein *et al.*, 2015).

So far, however, scholars have not dealt with metastereotypes in much detail. The existing research is scarce and does not adequately cover the antecedents and effects of metastereotypes. Still, experimental research on intergroup contact conducted by Finchilescu (2010) in three universities showed an association between negative metastereotypes and prejudice and found these two constructs to be predictors of intergroup anxiety. Regarding older workers age metastereotypes, a recent cross-sectional study showed that negative age-based metastereotypes were directly associated with fewer perceived opportunities at work and indirectly with stronger retirement intentions (Bal *et al.*, 2015). In any case, it is apparent that more research on age metastereotypes is needed to continue informing the ageism scholarship in organizations.

In short, besides calling into question the quality of intergenerational dynamics, workplace negative age-based metastereotypes boost evaluation pressures and identity threats on stereotyped individuals and, herewith, stigmatized workers sometimes fail to express their full potential (Shiu *et al.*, 2015). Further research on the role age-based stereotype threat plays in the workplace is, therefore, recommended.

The role of age-based stereotype threat
Steele and Aronson (1995) defined stereotype threat as being at risk of confirming a negative stereotype about one's group. Rather than merely framing stereotyping as an individual level problem, the stereotype threat literature offers contextual and situational interpretations of societal stereotypes' effects (Steele, 1997). Even though most of the investigation about societal stereotypes in organizations focus on gender and race issues, age is quickly becoming a relevant social category in the study of stereotype threat research

in the workplace (Kray and Shirako, 2011). Greater attention needs to be directed toward disadvantaged groups other than women or black workers (e.g. older workers) since not all stigmatized groups respond to stereotype threats in similar ways (Shapiro and Neuberg, 2007). Indeed, ageism may be somewhat different from other biases. Two main reasons support this claim. First, social disapproval of ageist attitudes seems almost absent because "ageism, unlike racism, does not provoke shame" (Levy and Banaji, 2002, p. 51). And second, unlike sexism or racism, ageism deals with flexible and subjective dividing lines that draw separation between age groups (Fiske and Taylor, 2008). Taken together, these arguments suggest the need for more scholarship that systematically examines the role played by age stereotyping on stigmatized organizational members and, herewith, provide a better understanding of the stereotype threat key feature – the concern of being stigmatized (Kalokerinos *et al.*, 2014).

The stereotyping literature has put forward numerous effects of negative age stereotypes in the workplace (e.g. Kalokerinos *et al.*, 2014). Regarding specifically stereotype threat outcomes, scholars have argued that, besides performance impairment, stereotype threat also impacts the identity development of stigmatized group members in the stereotyped domains (Kray and Shirako, 2011; Steele *et al.*, 2002). Steele (1997, p. 614) claimed that when the threat is persistent "it can pressure disidentification, a reconceptualization of the self and of one's values so as to remove the domain as a self-identity, as a basis of self-evaluation." One way of coping with stereotype threat is thus reducing or even removing the degree to which one's identity is tied to the domain where the stereotype is activated. If that is the case, then it is possible that older workers, having lived in an ageist society, are coping with negative age stereotypes in the workplace through organizational disidentification.

Organizational disidentification
Affiliation is a primary need of human nature. Individuals are motivated to relate and interact with others insofar as it allows them to have a sense of belonging with a larger and meaningful entity (Ashforth *et al.*, 2008).

According to the social identity theory (Tajfel and Turner, 1979) and self-categorization theory (Turner *et al.*, 1987), an important motive for individuals to join groups is to obtain a positive social identity, that is to define and evaluate who they are, how to behave and predict how they will be treated by others, based upon the consideration that the group membership reduces subjective uncertainty in intergroup relationships and raises self-esteem. Scholars suggested that organizational disidentification occurs when workers psychologically detach or distance themselves from the organization because they regard themselves as being different from or in moral conflict with the organization's values or ideologies (Elsbach and Bhattacharya, 2001; Kreiner and Ashforth, 2004). More than a mismatch with the organization, disidentification entails an active separation from the organization (Ashforth *et al.*, 2013).

Keeping in line with the social identity and self-categorization theories, disidentification with the organization occurs primarily because organizational membership represents a negative aspect of the self. Once organizational membership is not seen in a positive light, workers may engage in protective coping mechanisms that psychologically distance themselves from the organization. And provided that organizational boundaries are impermeable (e.g. the worker cannot leave the organization due to financial constraints) and workers experience identity threats, counterproductive work behaviors such as voicing strong negative views of the organization are to be expected. Furthermore, disidentification has been negatively associated with organizational reputation, and positively with psychological contract breach and cynicism (Kreiner and Ashforth, 2004). In their exploratory study, Kreiner and Ashforth (2004) found that despite being disidentified with the organization and having to sustain the negativity that this entails, individuals may

remain in the organization for long periods of time, thus posing a serious threat to the organization's long-term interests. Moreover, disidentification may also be triggered by non-inclusive organizational climates in which stereotyped group members' feelings of threat become more salient (Becker and Tausch, 2014). Prolonged stereotype threat experience may cause chronic disengagement from threatening activities which in turn, and due to its recursive nature may lead to long-term consequences such as disidentification (Roberson and Kulik, 2007; Steele *et al.*, 2002). Thus, the following hypothesis is formulated:

H1. Age-based stereotype threat is positively related to organizational disidentification.

In addition to identity adaptations, other reactions to stereotype threat situations have been found. Short-term defensive responses such as disengagement from the task domain were further suggested as coping strategies employed to deal with broadly held negative group stereotypes (Casad and Bryant, 2016; Kalokerinos *et al.*, 2014; Steele, 1997; Steele *et al.*, 2002). The moment older workers perceive they are members of a negatively stereotyped group, their work efforts and drive are likely to be confined to explicitly required activities. Thus, it is admitted that negative age beliefs should be considered as antecedents of older workers' work disengagement.

Work disengagement

Work disengagement is an individual withdrawal coping mechanism whereby workers decouple their full selves from the role, object and content of their work in order to avoid the depletion of personally valued resources (Demerouti *et al.*, 2010). Scholars have argued for the need of more research on the disengagement phenomenon (George, 2011), particularly because disengagement strategies are likely to indirectly lower psychological well-being (Dijkstra and Homan, 2016), and may lead to job withdrawal behaviors in the long run. Work disengagement has been associated with lower levels of job satisfaction and organizational commitment (Riketta, 2008), decreased levels of motivation (Roberson and Kulik, 2007) and lack of job resources (Demerouti *et al.*, 2001).

The first discussions about work disengagement emerged with Kahn's (1990) ethnographic study about personal engagement and disengagement at work. This study paved the way for disengagement research by suggesting that, in certain circumstances, workers are likely to distance themselves from the work domain. Another major contribution of Kahn's (1990) seminal work was the description of psychological conditions that theoretically induce work engagement. Important to the current study are the psychological conditions of meaningfulness and safety. Meaningfulness refers to the "feeling that one is receiving a return on investments of one's self in a currency of physical, cognitive, or emotional energy" (Kahn, 1990, p. 704). Meaningful workplaces make workers feel worthwhile, useful and appreciated. For instance, supervisor and co-worker support is believed to be meaningful factor in the workplace, since rewarding interactions allow workers to reinforce their sense of belonging and inclusion (Downey *et al.*, 2015). Rewarding interactions are associated with a more meaningful work experience, and they foster a sense of psychological safety at work whereby the expression of one's true self is made possible. Conversely, when workers experience lack of meaning in their workplace due to, for example, perceived age threats, they might disengage from work. As situational threats are likely to trigger decreased engagement (Barbier *et al.*, 2013; Casad and Bryant, 2016; James *et al.*, 2013; Steele and Aronson, 1995), workers reciprocity with the organization is at stake whenever their perceptions point to unfair or biased treatment by the organization (Downey *et al.*, 2015). For organizations, corporate memory loss is likely in the long run as more older workers psychologically disconnect from work.

Given that avoiding the threatened domain is not always possible, especially in socially valued contexts such as the workplace, individuals attempt to shield themselves from

psychologically damaging consequences by reducing the links between the self and stereotypical evaluations of one's skills and performance (Steele *et al.*, 2002). Through disengagement with the task domain, stereotyped individuals seek to maintain a sense of control over their self-esteem by breaking the connections between one's performance and negative stereotypes. Yet, the disengagement process entails drawbacks, both for stereotyped people and for their organizations. When a member of a negatively stereotyped group disengages from the work domain, the likelihood of confirming the stereotype and thereby boosting its salience decreases. But, at the same time, that very same coping mechanism prevents the complete and full statement of one's working skills. Accordingly, the following hypothesis is formulated:

H2. Age-based stereotype threat is positively related to work disengagement.

Furthermore, this study proposes that the coping mechanisms older workers may have been using to deal with negative stereotypes are likely to be influenced not only by the concern of being stigmatized, but also by age-based stereotype threat first-order triggers, that is to say, the beliefs embedded in older workers negative age-based metastereotypes. It is admitted that older workers' beliefs concerning stereotypical beliefs that other age groups hold about older workers are likely to impact directly and positively on work disengagement and organizational disidentification. Thus, the following hypotheses are formulated:

H3. Negative age-based metastereotypes are positively related to organizational disidentification.

H4. Negative age-based metastereotypes are positively related to work disengagement.

Additionally, an indirect effect of negative age-based metastereotypes on organizational disidentification and work disengagement through age-based stereotype threat is anticipated. The worry, concern and anxiety prompted by confirming a negative stereotype about older workers are likely to mediate the relationship between negative age metabeliefs and these two work attitudes. On the basis of the above mentioned, the following hypothesis is formulated:

H5. Age-based stereotype threat mediates the relationship between negative age-based metastereotypes and both organizational disidentification and work disengagement.

Method
Participants and procedure
This research relies on a convenience sample (Edwards, 2008) comprised by 423 blue-collar workers aged 50-65 (282 males, 141 females) working in nine manufacturing companies operating in Portugal. A total of 70 percent of the participants work in large companies (with more than 249 workers). Most respondents were married (81 percent) and in terms of education, 69 percent of them did not go beyond primary education. The average age of participants was 53.96 years (SD = 3.13), the average tenure in the organization was 24.42 years (SD = 10.51) and the average seniority on the job was 19.49 years (SD = 11.46).

The survey was comprised of items from several suitable and reliable scales, which were translated into Portuguese by a translation expert by means of a translation/back-translation procedure (Brislin *et al.*, 1973). The exception was the scale measuring negative age-based metastereotypes, in which the three items included in a pilot questionnaire were selected from previous studies on age stereotypes in the workplace (Posthuma and Campion, 2009), from interviews with three expert scholars, and from consultations with HR managers and workers. The items were developed according to Hinkin's (1998) guidelines. Data were collected in two waves. In the first wave, ratings regarding negative age-based metastereotypes, age-based stereotype threat, age group identification and

the older workers age threshold were obtained, and with a two-month time lag, the ratings on the two negative work attitudes were collected. In the second wave, for the sake of clarity of each scale, participants were asked to consider as older workers the workers aged 50 or more. Although scholars have suggested the age threshold of 53 years old for older workers in Portugal (Fula *et al.*, 2012), given that this study targets the stereotype experience of blue-collar older workers of the manufacturing sector, a downward adjustment of that age threshold was made. The manufacturing sector is characterized by physically demanding jobs "frequently age-typed as young people's jobs" (Kulik *et al.*, 2016, p. 2136). Furthermore, the adopted age group categorization is in line with the OECD (2006) definition.

Measures
Unless otherwise stated, participants were asked to indicate their level of agreement on a five-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree) with regard to the following scales.

Negative age-based metastereotypes – three items tapped negative age-based metastereotypes held by older workers regarding younger workers beliefs about respondents' ingroup. A sample item is "My younger colleagues feel that I contribute less because of my age."

Age-based stereotype threat – given that the original definition of stereotype threat by Steele and Aronson (1995) refers to concerns about one's personal abilities (Shapiro *et al.*, 2013), older workers rated their experience of stereotype threat at the workplace through the own-reputation threat scale designed by Shapiro (2011). A sample item of the three-item scale is "I am concerned that my actions could lead my colleagues to judge me based on the stereotypes about older workers."

Organizational disidentification – organizational disidentification was measured with a six-item scale (Kreiner and Ashforth, 2004). A sample item is "I want people to know that I disagree with how this organization behaves."

Work disengagement – the disengagement from work scale of the Oldenburg Burnout Inventory (Demerouti *et al.*, 2001) was used. Workers rated their work disengagement from items such as "It happens more and more often that I talk about my work in a negative way."

Results
Descriptive statistics, bivariate correlations and reliabilities are presented in Table I.

In line with previous research that found positive moderate correlations between negative age-based metastereotypes and intention to retire (Bal *et al.*, 2015) and von Hippel *et al.*'s (2013) findings of moderate to strong negative relationships between stereotype threat and job satisfaction and organizational commitment – though the reported measure of stereotype threat actually captured metastereotypes – both negative age-based metastereotypes and age-based stereotype threat were positively related to negative work attitudes.

Variable	*M*	SD	1	2	3	4	5	6	7
1. Negative age-based metastereotypes	2.16	1.08	(0.76)						
2. Age-based stereotype threat	2.01	1.12	0.33**	(0.80)					
3. Work disengagement	2.04	0.82	0.60**	0.56**	(0.81)				
4. Organizational disidentification	2.02	0.92	0.57**	0.39**	0.72**	(0.79)			
5. Age	53.96	3.13	0.07	0.04	0.08	0.06	–		
6. Organizational tenure	24.42	10.51	0.01	0.02	−0.02	0.02	0.14**	–	
7. Seniority	19.49	11.46	0.00	0.08	0.06	0.04	0.15**	0.51**	–

Notes: $n > 341$ for all variables. Reliabilities (coefficient α) are in parentheses. ** $p < 0.01$ level (two-tailed)

Table I.
Descriptive statistics and correlations

Test of the measurement model
To establish whether the ageism constructs (negative age-based metastereotypes and age-based stereotype threat) are discrete, a CFA analysis was conducted in AMOS 23. The two-factor model was a significantly better fit than the one-factor model: χ^2 difference (df = 1) = 243.57, $p < 0.001$, thus representing the best fit to the data. The fit of a four-factor model reflecting negative age-based metastereotypes, age-based stereotype threat, work disengagement and organizational disidentification was also examined (see Table II), and compared with that of a three-factor model that retained the two work attitudes factors, and combined all ageism items into a single factor. The four-factor model (reflecting two ageism factors) was a significantly better fit than the three-factor model: χ^2 difference (df = 3) = 299.76, $p < 0.001$. All the items loaded significantly and above 0.40 onto their respective factors ($p < 0.001$) in the four-factor model.

Structural model
Prior research does not provide a definitive rationale for whether age-based stereotype threat will partially or fully mediate the relationship between negative age-based metastereotypes and work attitudes. Although partial mediation has been suggested as the most likely in psychology research (Baron and Kenny, 1986), the recommendation of James *et al.* (2006) was followed, according to which full mediation represents the best choice of a baseline model. Yet, because the literature is not conclusive in this regard, a partially mediated model was also explored. Both models were analyzed through structural equation modeling using the AMOS 23 program. To test whether age-based stereotype threat mediated the relationship between negative age metastereotypes and negative work attitudes, bias-corrected bootstrapping with 2,000 bootstrap resamples to generate estimates and 95% confidence intervals (CIs) of indirect effects were used (Shrout and Bolger, 2002). Bootstrap was used given that almost every variable departs significantly from normality according to the critical ratio criterion and given that the multivariate distribution is nonnormal – Mardia's coefficient of multivariate kurtosis = 100.89, and a critical ratio value of 34.97 (see Table III).

Fit indices indicate a good fit of the partially mediated model: χ^2 (df = 162) = 352.47 (root-mean-square error of approximation (RMSEA) = 0.05, incremental fit index (IFI) = 0.94 and comparative fit index (CFI) = 0.94), and an acceptable fit of the fully mediated model: $\chi 2$ (df = 164) = 496.57 (RMSEA = 0.07, IFI = 0.89 and CFI = 0.89). The partial mediation model provides a significantly better fit to the data than the fully mediated model: χ^2 difference (df = 2) = 144.10, $p < 0.001$.

Results of the partially mediated model are shown in Figure 1.

In the partially mediated model, negative age-based metastereotypes exerted a significant direct effect on age-based stereotype threat ($\beta = 0.40$, $p < 0.001$), with an R^2 for variance explained of 0.16, and significant direct effects on work disengagement

Item	χ^2	df	RMSEA	IFI	CFI
Ageism items only					
Two-factor model	9.44	8	0.02	0.99	0.99
One-factor model	253.01	9	0.25	0.69	0.68
Ageism and work attitudes items					
Four-factor model	352.47	162	0.05	0.94	0.94
Three-factor model	652.23	165	0.08	0.84	0.84

Table II.
Confirmatory factor analyses

Notes: RMSEA, root-mean-square error of approximation; IFI, incremental fit index; CFI, comparative fit index

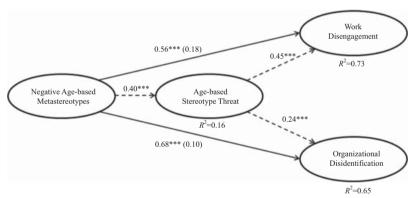| Variable	Min.	Max.	Skew	CR	Kurtosis	CR
AGEMET1	1.000	5.000	0.501	4.209	−1.127	−4.732
AGEMET2	1.000	5.000	0.734	6.163	−0.824	−3.458
AGEMET3	1.000	5.000	0.869	7.293	−0.576	−2.418
ST1	1.000	5.000	0.852	7.153	−0.805	−3.379
ST2	1.000	5.000	1.406	11.803	0.626	2.626
ST3	1.000	5.000	0.717	6.019	−0.751	−3.155
WRKDIS1R	1.000	5.000	0.190	1.594	−1.316	−5.523
WRKDIS2R	1.000	5.000	0.882	7.403	−0.660	−2.769
WRKDIS3R	1.000	5.000	0.736	6.177	−0.925	−3.884
WRKDIS4	1.000	5.000	1.103	9.263	−0.158	−0.663
WRKDIS5	1.000	5.000	1.039	8.724	−0.050	−0.212
WRKDIS6	1.000	5.000	0.686	5.763	−1.013	−4.251
WRKDIS7	1.000	5.000	1.484	12.460	0.865	3.631
WRKDIS8R	1.000	5.000	1.890	15.866	2.544	10.679
ORGDIS1	1.000	5.000	1.134	9.525	−0.302	−1.268
ORGDIS2	1.000	5.000	1.973	16.562	2.547	10.691
ORGDIS3	1.000	5.000	0.937	7.864	−0.512	−2.151
ORGDIS4	1.000	5.000	0.727	6.102	−0.913	−3.831
ORGDIS5	1.000	5.000	0.496	4.168	−1.164	−4.886
ORGDIS6	1.000	5.000	0.822	6.900	−0.699	−2.936
Multivariate					100.886	34.973

Table III.
Assessment of
normality

Note: ***$p < 0.001$

Figure 1.
Structural equation
modeling
results: partial
mediation model

($\beta = 0.56$, $p < 0.001$), and organizational disidentification ($\beta = 0.68$, $p < 0.001$). Age-based stereotype threat in turn exerted a significant effect on work disengagement ($\beta = 0.45$, $p < 0.001$), and on organizational disidentification ($\beta = 0.24$, $p < 0.001$). These results support *H1-H4*.

There were significant indirect effects of negative age-based metastereotypes through age-based stereotype threat on work disengagement ($\beta = 0.18$, 95% CI [0.08, 0.20], $p < 0.001$), and on organizational disidentification ($\beta = 0.10$, 95% CI [0.05, 0.16], $p < 0.001$). This represents a significant small to medium indirect effect size (Preacher and Kelley, 2011). Overall, the partially mediated model depicted in Figure 1 explained 73 percent of the work disengagement variance, and 65 percent of the organizational disidentification variance. Taken together, these results support *H5*. Given that a curvilinear relationship between stereotype threat and work engagement was recently reported (Bedyńska and Żołnierczyk-Zreda, 2015),

this study tested for curvilinear relationships between age-based stereotype threat and the two negative work attitudes. No significant curvilinear relationships were found between threat and outcome variables.

Discussion

This study was designed to examine the mediation role played by age-based stereotype threat in the relationship between negative age-based metastereotypes and work disengagement and organizational disidentification.

Theoretical implications

Overall, the results contribute to a better understanding of the stereotype threat nomological network. The findings suggest that age-based stereotype threat is likely to occur as an emotional response to negative age-based metastereotypes since negative metabeliefs are positively associated with the worry and concern that characterize stereotype threat. According to the age-based metastereotype activation model, workers may interpret metastereotypes either as challenges or as threats (Finkelstein *et al.*, 2015). In line with social identity theory tenets (Tajfel and Turner, 1979), when the need for a positive social identity cannot be met, individuals engage in individual and/or collective self-enhancement strategies. Given that negative age-based metastereotypes seem to restrict older workers desire for self-enhancement and increased self-esteem, older workers do not engage in collective strategies like social creativity or social competition to cope with their stigmatized status. Consistent with the threat prediction of the age-based metastereotype activation model (Finkelstein *et al.*, 2015), the results show that older workers interpret negative metastereotypes as threats. Findings indicate that negative age-based metastereotypes and age-based stereotype threat are distinct parts of the older workers' stigmatization process and that negative age-based metastereotypes are probably the initial step that triggers the worry and concern characteristic of the stereotype threat experience (Voyles *et al.*, 2014). Although often left aside by stereotype threat scholarship, this study's findings support the idea that negative metastereotypes should be included in the stereotype threat nomological network. Moreover, this study reinforces the idea that the integration of the stereotype threat literature and the metastereotype literature would represent a step forward in the ageism scholarship.

Another important finding was that age-based stereotype threat was positively associated with negative work attitudes, thus confirming that stereotypes are perceived as stressors by older workers. In this way, this study showed that stereotype threat's consequences can be observed and measured outside laboratorial settings. Yet, negative age-based metastereotypes may be the main determinant behind those consequences. Indeed, effect sizes of age-based stereotype threat on work-related attitudes were small. These results are in line with previous findings regarding the magnitude of stereotype threat effects (Xavier *et al.*, 2014) and may be explained by a number of different factors. Regarding work disengagement specifically, it seems reasonable to assume that negative age metabeliefs threaten older workers psychological safety by calling into question their worth and contribution for team and organizational goals, thus triggering organizational disidentification. Unable to express their true selves, older workers might feel "useless" and increasingly disconnected from their work. Besides the effects of negative age biases, the late-career work disengagement (Damman *et al.*, 2013) helps to understanding older workers' sensemaking process about work disengagement. Throughout their career, workers go through different stages each one with different motives prevailing (e.g. growth, maintenance, regulation). Older workers are likely to focus their attention and energy on prevention or regulation of losses rather than on career growth. Herewith, both the late-career work disengagement associated with work activities' perceived costs and returns

in the preretirement period (Damman *et al.*, 2013) and older workers experience of stereotype threat may contribute to their work disengagement.

The same reasoning may be applied to the relationship between age-based stereotype threat and organizational disidentification. Given stereotype threat recursive nature, it is assumed that stereotype threat may lead to long-term consequences such as organizational disidentification. The results are consistent with this assumption. However, since the disidentification process is thought to be very slow, it is virtually impossible to insulate the causal effect of age-based stereotype threat on a chronic experience like organizational disidentification. Furthermore, it is plausible that age-based stereotype threat might just be one of the predictors of organizational disidentification. In addition, it is likely that among organizational disidentification triggers, more proximal variables such as organizational reputation or cynicism may be activating organizational disidentification (Kreiner and Ashforth, 2004) above and beyond age-based stereotype threat distal effects.

The findings about age-based stereotype threat outcomes suggest that older workers may cope with age identity threats in the workplace through individualized self-enhancement strategies such as individual mobility (Tajfel and Turner, 1979). While the debate about the role age group identification plays regarding stigmatized groups still endures, for instance regarding the dissociation and disidentification with older individuals' age group (Weiss and Lang, 2012) as a result of positive identity-based strategies, it is likely that older workers seek to psychologically distance themselves from the ingroup in order to protect their reputation from negative stereotypes damaging consequences. In addition, age group disidentification may be a particularly effective coping mechanism to deal with stereotype threats as threat vulnerability tends to be amplified when individuals identify strongly with the stereotyped group (Steele *et al.*, 2002).

Furthermore, negative age-based metastereotypes effects on work attitudes were also evinced, confirming that negative age metabeliefs may call into question the quality of intergenerational dynamics in the workplace (Shiu *et al.*, 2015). Negative age-based metastereotypes are therefore under the spotlight, particularly in a context of increasing age diversity in the workplace, and more importantly because good relationships with co-workers are among the most relevant drivers of older workers' job satisfaction (Drabe *et al.*, 2015). This is in line with earlier observations, which suggested negative age-based metastereotypes as relevant drivers of the coping mechanisms stigmatized individuals put into play to deal with the negative consequences of stereotyping (Finkelstein *et al.*, 2015). As such, organizational disidentification and work disengagement should be included in the age-based metastereotype activation model (Finkelstein *et al.*, 2015), extending age-based metastereotypes' effects above and beyond cross-age interactions and behaviors. Compared with age-based stereotype threat effects, negative age-based metastereotypes effects on work attitudes were much stronger. Taken these findings together, it is suggested that negative age-based metastereotypes and age-based stereotype threat in the workplace act as psychological demands affecting the workers' well-being. Occupational stress models such as the job demands-resources (JD-R) model (Bakker and Demerouti, 2007) have identified numerous working conditions that influence workers' well-being and job strain. It is likely that older workers are protecting themselves from the strain generated by negative age-based metastereotypes through negative work attitudes like work disengagement. Given that interactions in the workplace are shaped by attributed intergroup beliefs (Shiu *et al.*, 2015), it follows that age identity threats may become an important workplace stressor for stigmatized groups like the older workers. This implication is in line with Barbier *et al.* (2013) longitudinal work, which showed that perceived stigma should be categorized as a social demand within the JD-R model logic.

In sum, the findings of this study suggest that the combination of the age-based metastereotype literature with a stereotype threat framework contributes to further

understand intergroup interactions in the workplace, as well as older workers' beliefs, attitudes and well-being. And given that it seems easier to craft HRM practices to accommodate older workers preferences, needs and goals than to change beliefs, there is a definite reason for HR managers to appreciate the stereotype threat framework (Kulik, 2014b), as long as they are aware of the managing tools available to include, integrate and develop these workers' full potential (Scott *et al.*, 2011). More broadly, given that work-related needs and motives, and thus the utility of HR practices change with age (Kooij *et al.*, 2013), examining how HR practices are experienced by different age groups is important for further understanding the "HR practices-age group" fit and for the successful implementation of age-conscious policies. Particularly relevant for this study is the development of a rationale for tailoring HR practices to older workers, an issue that has been somewhat overlooked in the literature. Previous studies have found that some HR practices, such as flexible work schedules, participation, extended career interruptions and reduced workloads seemed particularly beneficial for older workers' motivation and retention (Kooij *et al.*, 2014). Acknowledging the limitations of studying isolated HR practices, these authors identified four bundles of HR practices suitable for older workers. However, their study was based on a single sector in a particular cultural (Dutch) context, and it is not clear whether these bundles are context or role specific or could also be applied to traditional blue-collar workers in other cultural settings. In sum, compared to other diversity dimensions, age-based stereotypes have been somewhat overlooked, and further research is needed to shed new light on these issues and support effective managerial action.

Managerial and organizational implications

Findings suggest that negative age-based metastereotypes and age-based stereotype threat should be taken into account when organizations design their age diversity management strategy. A greater awareness of the age-based stereotype threat nomological network would enable the development of targeted interventions aimed at reducing age threats detrimental consequences. Since stereotype threat is contingent on one's interpretation of situational contexts (Casad and Bryant, 2016; Kulik, 2014b), it is admitted that stereotype threat likelihood may be influenced by workplace interventions (Finkelstein *et al.*, 2015; Posthuma and Campion, 2009). In general, it is suggested that for organizational interventions to succeed in reducing age threat effects, interventions should strive to blur intergenerational boundaries within the organization. By doing so, interventions would address the older workers need to feel socially interconnected (Hennekam and Herrbach, 2015), which may be particularly difficult in a context of deeply engrained negative age-based metastereotypes and age-based stereotype threats. Interventions designed to reinforce shared identities among organizational members (Casad and Bryant, 2016) are likely to elicit social recategorizations within the organization; as a result, negative stereotypes may lose their power. Moreover, feeling useful and respected allows older workers to pursue a positive social identity (Hennekam and Herrbach, 2015), thereby counteracting age-based stereotype threats. Besides, interventions should take into account age threats in the workplace by opening lines of communication between different age groups about stereotypes and metastereotypes content. Furthermore, workplace interventions building on the social identity approach tenets could also be useful to reframe negative age metastereotypical beliefs. Given that negative age-based metastereotypes were found to be positively related to organizational disidentification, it is suggested that HRM efforts to reduce organizational disidentification should include reframing of metastereotypical beliefs (Casad and Bryant, 2016), for instance through mentoring opportunities that allow direct knowledge transfer and the creation of cross-cutting ties between older and younger workers. Opportunities such as these provide the context for opening lines of communication between different age groups to develop, which in turn may contribute to the reframing of stereotypes and metastereotypes content. Moreover, as these interventions are designed to

reinforce shared identities among organizational members (Casad and Bryant, 2016), it is likely that they elicit social recategorizations within the organization, and thereby negative stereotyping may lose its power. Overall, age threats are first and foremost a social identity problem, and hence it is admitted that interventions that foster social bonds above and beyond age group boundaries are likely to lessen age threats and their effects in the workplace.

Limitations and outlook
The findings are subject to various limitations. First, the current research was limited by the reliance on same-source data. Ageism constructs as well as work attitudes assessment came from older workers. However, given that measurement of the predictors and criterion constructs was separated in time (Podsakoff *et al.*, 2012), it is admitted that common method bias did not play a relevant role in the findings. Still, it is recommended that further research replicates this study using non-self-report outcomes, for instance, by utilizing middle managers and younger workers reports. Second, the cross-sectional design of this investigation is not the most suited to capture age-related effects in workers over time and, therefore, the suggested feedback cycle between stereotype-threatening situations in the workplace and their attitudinal consequences (Kalokerinos *et al.*, 2014) could not be properly addressed. This means that claims that the relationships are actually in the direction proposed are open to debate. Longitudinal designs are needed to confirm the causal nature of the relationship between age threats in the workplace and older workers' negative attitudes, as well as research diaries or the experience sample methodology to analyze the cycle of short- and long-term responses to stereotype threat. Third, this study did not distinguish the potential sources, nor explored distinct targets of the stereotype threat experience. It would be interesting to analyze whether different sources of the stereotype threat (e.g. teammates, supervisors, top managers) and different targets (e.g. the self, the ingroup) share antecedents, outcomes and boundary conditions. For instance, further research might explore the role of older workers underrepresentation in predicting the likelihood of different forms of age-based stereotype threat in the workplace, or the moderating role played by organizational interventions like HR practices for older workers in the relationship between negative age-based metastereotypes in the workplace and the age-based stereotype threat experience. Finally, given that age stereotypes may be influenced by the national culture in which they arise (Shiu *et al.*, 2015), and that negative stereotyping about older workers seems to be more striking in Western rather than in Eastern settings (Chiu *et al.*, 2001), caution must be applied, as the findings might not be transferable to other cultural settings.

Conclusions
This study showed that negative age-based metastereotypes are positively associated with threat reactions, and undesirable work attitudes. Moreover, findings indicate that age-based stereotype threat partially mediates the relationship between negative age-based metastereotypes and negative work attitudes of older workers. Taken together, these findings suggest that negative age-based metastereotypes and age-based stereotype threat act as social demands that might compromise older workers' well-being.

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Corresponding author
Eduardo Oliveira can be contacted at: eaoliveira@porto.ucp.pt