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RESEARCH ARTICLE

Every coin has two sides: the case of thriving at work

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Abstract

Drawing upon the thriving at work and agism literature, we added unexplored thriving antecedents (i.e., negative age-based metastereotypes and associated reactions) to the thriving nomological network. Additionally, we investigated the thriving-turnover intentions link throughout the lifespan. Parallel multiple mediator models were used to analyze the role played by threat and challenge in the relationship between negative age-based metastereotypes and overall thriving. Survey results ($n = 326$ employees) showed that threat and challenge mediated this relationship, yet differential relationships between antecedents and thriving appeared when analyzing thriving dimensions (i.e., learning and vitality) separately. Relatedly, turnover intentions were negatively predicted by overall thriving, but learning and vitality effects on turnover intentions were distinct across age groups. Findings recommend a clearer distinction between thriving dimensions role in the thriving experience throughout the lifespan. Overall, this study contends that the combination of thriving and agism literature contributes to further understand employee growth.

Key words: Challenge; negative age-based metastereotypes; stereotype threat; thriving at work; turnover intentions

Introduction

Thriving at work has been defined as a positive psychological state that fosters personal growth in the workplace (Niessen, Sonnentag, & Sach, 2012; Spreitzer, Porath, & Gibson, 2012). Thriving occurs through the joint sense of vitality (e.g., feeling energized) and learning (e.g., continuously acquiring and applying knowledge). Meta-analytical findings (Kleine, Rudolph, & Zacher, 2019) indicate that the social embeddedness framework of thriving at work (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005) has been gaining traction in recent years. More than 60 studies have been published since Spreitzer et al.'s (2005) seminal work and several research designs have been used within the thriving scholarship. Indeed, diary studies (Niessen, Sonnentag, & Sach, 2012), cross-sectional investigations (Paterson, Luthans, & Jeung, 2014), multilevel/multiwave studies (Walumbwa, Muchiri, Misati, Wu, & Meiliani, 2018), multisource research (Alikaj, Ning, & Wu, 2021), and mixed-method studies (Hennekam, 2017; Taneva & Arnold, 2018) have been used to examine the thriving nomological network. Furthermore, research findings across various industries suggest that thriving at work is critically important from a managerial standpoint (Walumbwa et al., 2018). Empirical work showed that thriving is positively associated with outcomes such as employees' health, individual performance (task and creative), unit performance, and negatively with turnover intentions (Alikaj, Ning, & Wu, 2021; Anjum, Marri, & Khan, 2016; Taneva & Arnold, 2018; Walumbwa et al., 2018). Thus, understanding the factors that underpin thriving at work is key for sustaining organizational competitiveness.

Spreitzer et al.'s (2005) theoretical model suggested individual, relational, and contextual enablers of the thriving experience. Lower levels of perceived stress, positive affect, high-quality relationships with coworkers, coworker support, and feeling treated with respect, all contribute to

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increased levels of thriving at work (Carmeli, Brueller, & Dutton, 2009; Carmeli & Spreitzer, 2009; Niessen, Sonnentag, & Sach, 2012; Paterson, Luthans, & Jeung, 2014; Porath, Spreitzer, Gibson, & Garnett, 2012; Zhai, Wang, & Weadon, 2020). In contrast, the role of job stressors on the thriving experience is far from being clearly understood (Kleine, Rudolph, & Zacher, 2019; Prem, Ohly, Kubicek, & Korunka, 2017). For instance, although it is known that relational resources such as high-quality relationships with coworkers are inherently motivating and foster growth (Niessen, Sonnentag, & Sach, 2012; Spreitzer et al., 2005), less attention has been directed to explore whether job stressors influence the quality of coworkers' interactions (Walumbwa, Christensen-Salem, Perrmann-Graham, & Kasimu, 2020). Following recent calls to further investigate the role of stressors and relational resources in the thriving experience (Paterson, Luthans, & Jeung, 2014; Prem et al., 2017; Rego, Cavazotte, Cunha, Valverde, Meyer, & Giustiniano, 2020; Walumbwa et al., 2020; Yang & Li, 2021), this study's first goal is to examine the role played by workplace agism, namely negative age metabeliefs and associated reactions, in shaping thriving at work. Aging societies and increasingly age diverse workforces (Boehm, Kunze, & Bruch, 2014; Scheuer & Loughlin, 2020) have been transforming the organizational landscape in most Western countries and, hence, age is becoming a salient social category for age-based categorizations and stereotyping. By extension, negative age-based metastereotypes, that is, individual negative beliefs concerning stereotypes other age groups hold about one's ingroup (Finkelstein, Ryan, & King, 2013) are likely to be activated. In line with recent developments that showed negative age-based metastereotypes predict relevant work outcomes in different age groups (von Hippel, Kalokerinos, Haanterä, & Zacher, 2019), we anticipate negative associations between agist beliefs and thriving at work across the lifespan. Additionally, we seek to address whether agist negative beliefs trigger a hindrance, a challenge, or both types of response (Lazarus & Folkman, 1984; Searle & Auton, 2015). With that in mind, we posit that age-based stereotype threat and challenge mediate the relationship between negative age-based metastereotypes and thriving throughout the working life. Besides measuring thriving at work as a composite of learning and vitality, this study also measures the two components of thriving independently. The reason thereto is twofold: on the one hand, the lack of studies describing the role of agist beliefs and associated reactions as antecedents of thriving at work, and, on the other hand, the risk of overlooking valuable information by relying exclusively on thriving as a compound measure (Kleine, Rudolph, & Zacher, 2019; Oliveira, 2021). For example, it is important to examine whether age bounded phenomena like the late-career work disengagement (Damman, Henkens, & Kalmijn, 2013) are or are not reinforced by negative age metabeliefs, and thus undermine the overall thriving experience of older workers.

Given that turnover intentions are commonly regarded as one of the best proxies of actual voluntary turnover (Wong & Cheng, 2020), this study's second aim is to investigate the relationship between thriving at work and turnover intentions. To disentangle each dimension role in the relationship with turnover intentions, both overall and dimension scores will be analyzed (Kleine, Rudolph, & Zacher, 2019). In doing so, this study examines the extent to which (dis)agreement between learning and vitality scores predicts turnover intentions, thus enhancing our knowledge of thriving at work consequences.

Bringing the thriving at work and agism scholarships together, this study aims to contribute to the development of the thriving at work nomological network in several ways. By putting the spotlight on how negative age metabeliefs influence the thriving experience throughout working lives, this study seeks to contribute to the development of evidence-based HR interventions tailored to different age groups. Relatedly, this study aims to broaden the research about thriving dimensionality (Prem et al., 2017; Yang & Li, 2021) by examining the relationships between both overall and thriving dimensions separately, their antecedents, and an attitudinal outcome. To our knowledge, this is one of the first studies to systematically analyze and report both overall and thriving dimension scores, thereby extending the Spreitzer et al.'s (2005) model of thriving at work. Against this background, a theoretical model was developed (Figure 1).

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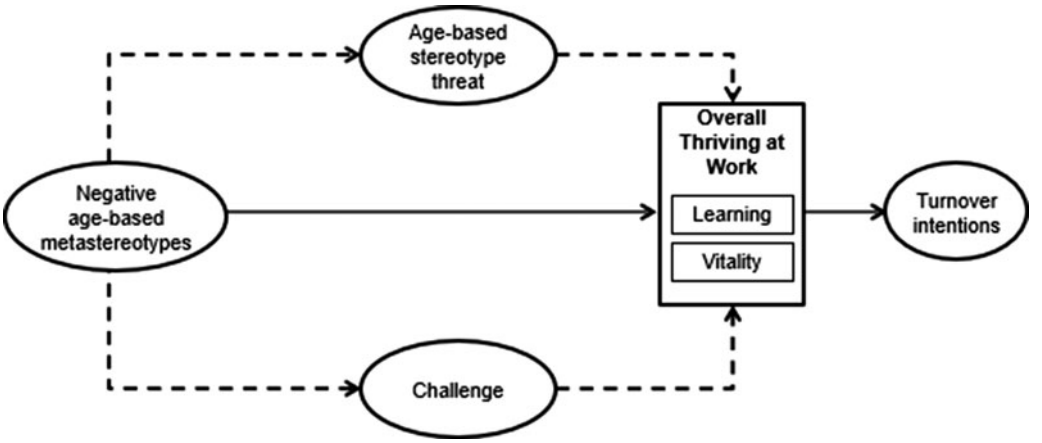


Figure 1. Theoretical model.

Theoretical background and hypotheses

Thriving at work

Thriving at work refers to 'the joint sense of vitality and learning, which communicates a sense of progress or forward movement in one's self-development' (Spreitzer et al., 2005, p. 538). Defined as a positive psychological state and developed within a social embeddedness framework (Spreitzer et al., 2005), thriving at work fosters personal growth in the workplace (Spreitzer, Porath, & Gibson, 2012). Thriving occurs through the simultaneous experience of vitality (e.g., feeling energized and enthusiastic) and learning (e.g., continuous acquiring and applying knowledge). These two dimensions capture the affective and cognitive aspects of psychological growth, respectively, and they both need to be high for an employee to experience thriving (Alikaj, Ning, & Wu, 2021). Thriving at work is distinct from related concepts such as flow, flourishing, resilience, subjective well-being, positive affect, and work engagement (Spreitzer et al., 2005) to the extent that it emphasizes the positive experience of human growth and development founded on the joint sense of vitality and learning (Kleine, Rudolph, & Zacher, 2019). Differently from subjective well-being, thriving combines hedonic and eudaimonic elements, and it exhibits incremental predictive validity above and beyond positive affect and work engagement for task performance and burnout (Kleine, Rudolph, & Zacher, 2019).

The socially embedded model of thriving at work (Spreitzer et al., 2005) comprises individual (e.g., perceived stress), relational (e.g., heedful interactions), and contextual (e.g., trust climate) enablers of the thriving experience. Following recent calls to investigate further (a) the role of stressors (Prem et al., 2017; Yang & Li, 2021), and (b) relational resources in the thriving experience (Paterson, Luthans, & Jeung, 2014; Rego et al., 2020; Walumbwa et al., 2020), this study aims to examine the role played by workplace agism, namely metabeliefs and associated reactions, in shaping thriving at work.

Workplace agism

Agism was first defined as a set of conceptions about age expressed through attitudes and discriminatory practices usually against older people (Butler, 1969). Today, this definition is broader as it is accepted that agism may target any age group. In fact, age discrimination often targets younger and older employees (Duncan & Loretto, 2004; European Commission, 2012). Workplace age discriminatory behaviors are grounded in age stereotypes, that is, in shared beliefs and expectations about workers due to their age (Posthuma & Campion, 2009). Based on the

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process of categorization and group membership, stereotypes are a key aspect of intergroup behavior by allowing group members to make sense of intergroup relationships. Against the backdrop of increasing age diversity in the workplace (Scheuer & Loughlin, 2020), age has become a more salient social category for age-based sub-grouping in Western countries (Boehm, Kunze, & Bruch, 2014), thus contributing to separate workers in classes such as 'old,' 'young,' and 'middle-aged.' Most research on workplace stereotypes focuses on older worker stereotypes, although some scholars have extended research to younger and middle-aged worker stereotypes (Finkelstein, Ryan, & King, 2013). Although negative stereotypes about older workers far exceed positive ones (Posthuma & Campion, 2009), the picture gets more nuanced regarding younger and middle-aged worker stereotypes. For instance, Finkelstein, Ryan, and King (2013) found that younger workers were predominantly stereotyped in negative terms by their middle-aged colleagues, whereas older workers held essentially positive stereotypes about the younger workers age group. Additionally, middle-aged workers were mostly characterized in positive light by other work age groups, although negative stereotypes about this age group were also found.

Negative age-based metastereotypes

Despite its contributions, research on workplace age stereotypes is of limited value as regards understanding intergroup relations. With organizational age diversity increasing (Scheuer & Loughlin, 2020), research about metastereotypes, that is, stereotypical beliefs other age groups hold about one's ingroup (Finkelstein, Ryan, & King, 2013), seems to be in the best place to fill that gap (Judd, Park, Yzerbyt, Gordijn, & Muller, 2005). In fact, recent research shows that negative age-based metastereotypes may call into question the quality of intergenerational dynamics in the workplace (Finkelstein, Ryan, & King, 2013, 2019; von Hippel et al., 2019). For instance, negative age metastereotyping was negatively associated with job satisfaction and organizational commitment, and positively associated with work disengagement and organizational disidentification among workers from different age groups (Oliveira & Cabral-Cardoso, 2018; von Hippel, Kalokerinos, & Henry, 2013; von Hippel et al., 2019). In this context, it seems reasonable to assume that negative age-based metastereotypes may also influence thriving at work and do so in at least two ways. First, employees may feel depleted by the demands posed by a negative view of their ingroup held by coworkers, and as a result they may experience lower levels of vitality. Second, as negative age metastereotyping diminishes the likelihood of interactions and cooperation with coworkers of other age groups (Oliveira & Cabral-Cardoso, 2018), acquiring new knowledge and learning may become more challenging. Indeed, high-quality relationships with coworkers were positively linked to thriving (Niessen, Sonnentag, & Sach, 2012), and coworker support and feeling treated with respect seems to help employees feel powerful in their pursuit for personal growth (Carmeli, Brueller, & Dutton, 2009; Zhai, Wang, & Weadon, 2020).

Relations with coworkers have a major influence on how employees make sense of their work environment (Takeuchi, Yun, & Wong, 2011), and explain employee outcomes above and beyond direct supervisor's influence (Chiaburu & Harrison, 2008). Therefore, coworkers are one of the primary referents in most workplaces (Chiaburu & Harrison, 2008). Given that social exchanges with coworkers are shaped by attributed intergroup beliefs (Shiu, Hassan, & Parry, 2015), age identity threats may become an important workplace stressor (Walumbwa et al., 2020). Heedful relating to coworkers may be obstructed because stereotyped employee's need for a positive age identity is not met (Tajfel & Turner, 1979), and, for that reason, positive social exchanges based on mutual trust, interdependence, and reciprocity are not developed (Cropanzano & Mitchell, 2005). By extension, coworkers helping and supporting behaviors that foster learning and vitality at work are not likely to materialize due to avoidance or conflict behaviors (Finkelstein, Voyles, Thomas, & Zacher, 2019; Niessen, Sonnentag, & Sach, 2012). Herewith, we contend that employees may not thrive or exhibit lower levels of thriving as an effect of

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the negative social identities conveyed by negative age-based metastereotypes (Tajfel & Turner, 1979). Specifically, dealing with negative age-based metastereotypes can be effortful, increase perceived stress and hence vitality might be hindered. At the same time, as thriving at work occurs through high-quality interactions with others (Spreitzer et al., 2005), negative age-based metastereotypes have the potential to decrease the rate and the quality of social interactions with coworkers, thus diminishing learning opportunities. Taken together, these arguments suggest negative associations between agist beliefs and thriving at work across the lifespan. Notwithstanding the scarcity of middle-aged workers negative age stereotypes (Posthuma & Campion, 2009), middle-age negative age-based metastereotypes were identified (Finkelstein, Ryan, & King, 2013). We, therefore, posit that, along with their younger and older counterparts (Finkelstein et al., 2019; von Hippel et al., 2019), middle-aged workers are also vulnerable to negative age-based metastereotypes activation and related consequences. The following hypothesis is, hence, formulated:

Hypothesis 1: Negative age-based metastereotypes are negatively related to overall thriving at work.

Although differential effects of job stressors and lifespan development constructs like occupational future time perspective on the learning and vitality dimensions have been evinced (Oliveira, 2021; Prem et al., 2017, respectively), recent meta-analytical evidence showed that researchers usually do not report results for vitality and learning separately (Kleine, Rudolph, & Zacher, 2019). Hence, this study aims to fill this gap by examining separately the association between negative age-based metastereotypes and the two components of thriving. Since thriving at work has been defined as the joint sense of learning and vitality (Spreitzer et al., 2005), a negative relationship between negative age-based metastereotypes and at least one of the thriving components is likely to hinder workers' thriving. We thus hypothesize that:

Hypothesis 1a: Negative age-based metastereotypes are negatively related to learning.

Hypothesis 1b: Negative age-based metastereotypes are negatively related to vitality.

Negative age-based metastereotype reactions: age-based stereotype threat and challenge

Consistent with the age-based metastereotype activation model (Finkelstein, King, & Voyles, 2015) and with empirical evidence (Finkelstein et al., 2019; von Hippel et al., 2019), employees may interpret metastereotypes either as challenges or as threats. Stress appraisal style theory (Lazarus & Folkman, 1984) categorizes job stressors as challenge stressors or hindrance stressors. A challenge appraisal is made when the employee perceives a situation as having potential for growth or gain, whereas a hindrance appraisal reflects one's frustration of being inhibited to pursue self-development (Lazarus & Folkman, 1984; Searle & Auton, 2015). Importantly, challenge appraisal and hindrance appraisal are not mutually exclusive given that the same situation may be perceived as both a challenge and a threat (Searle & Auton, 2015; Yang & Li, 2021). Moreover, research has evinced that although both types of job stressors have negative effects, challenge appraisals may give rise to desirable outcomes such as engagement and performance (LePine, LePine, & Jackson, 2004; LePine, Podsakoff, & LePine, 2005; Yang & Li, 2021). For instance, in a recent diary study with 124 knowledge workers, Prem et al. (2017) investigated the differential effects of two job stressors (time pressure and learning demands) on thriving at work and concluded that challenge stressors have a positive total effect on learning, but no total effect on vitality. In line with these findings, we contend that a better understanding of employee thriving at work would be obtained by the examination of the mediated relationships between negative

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age-based metastereotypes and thriving at work. Specifically, this study examines the mediation role of two negative age-based metastereotype reactions: threat and challenge (Finkelstein, King, & Voyles, 2015).

A considerable amount of literature has been published about the positive relationship between negative age-based metastereotype and age-based stereotype threat (e.g., Voyles, Finkelstein, & King, 2014). Age-based stereotype threat refers to the worry or concern of being at risk of confirming a negative age stereotype about one's group (Steele & Aronson, 1995). Recent findings suggest that negative age-based metastereotype and age-based stereotype threat are separate components of the age-based stereotype threat nomological network, and that the latter is likely to occur as an emotional reaction to negative metabeliefs (Finkelstein et al., 2019; Oliveira & Cabral-Cardoso, 2018). Age-based stereotype threat was positively associated with conflict and avoidance, and negatively with engagement (Finkelstein et al., 2019; Kulik, Perera, & Cregan, 2016). Building on the aforementioned findings, it is argued that age-based stereotype threat is likely to mediate the relationship between negative age metabeliefs and thriving at work. Indeed, findings highlight lower engagement levels and lower-quality interactions between age groups as recurrent consequences of age-based stereotype threat in organizations (Finkelstein et al., 2019; von Hippel et al., 2019). In this type of work contexts, negative age metabeliefs may trigger stereotype threat, which in turn may yield intergenerational tensions harmful to the thriving everyday experience. Following this rationale, hypothesis 2 is formulated:

Hypothesis 2: Age-based stereotype threat mediates the relationship between negative age-based metastereotypes and overall thriving.

Since thriving occurs through the concurrent experience of high levels of learning and vitality (Spreitzer et al., 2005), two hypotheses were set to specifically address the effects of age-based stereotype threat on thriving components:

Hypothesis 2a: Age-based stereotype threat mediates the relationship between negative age-based metastereotypes and learning.

Hypothesis 2b: Age-based stereotype threat mediates the relationship between negative age-based metastereotypes and vitality.

Although a growing body of literature has investigated negative age metastereotype consequences (Finkelstein et al., 2019; von Hippel, Kalokerinos, & Henry, 2013), a comprehensive view of the reactions elicited by metastereotypes is far from being accomplished. Besides triggering age threat, negative metastereotypes may also prompt mixed reactions (e.g., pride and resentment) to the negative stereotypical belief (Finkelstein, King, & Voyles, 2015). This type of reaction was dubbed challenge and refers to the motivation to confront and disprove the negative age-based metastereotype. The degree to which workers respond to negative metastereotypes by feeling worried or/and by trying to prove them false seems to be contingent on the (im)balance between personal and contextual demands and resources (LePine, Podsakoff, & LePine, 2005; Mendes & Jamieson, 2012; von Hippel et al., 2019). Challenge reactions are more likely in situations in which stigmatized workers feel they have the resources to overcome the demands, and conversely, a threat reaction is to be expected when workers feel overburden by workplace demands (Lazarus & Folkman, 1984; Mendes & Jamieson, 2012). The challenge reaction has been positively associated with job satisfaction (Cavanaugh, Boswell, Roehling, & Boudreau, 2000), job engagement, and with commitment (von Hippel et al., 2019). Additionally, a recent daily diary study highlighted the positive relationship between challenge and engagement with others (Finkelstein et al., 2019), which in turn may contribute to increased learning levels as engaging behaviors facilitate higher-quality

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interactions with coworkers (Finkelstein, King, & Voyles, 2015). Drawing on the above explanations, we posit that:

Hypothesis 3: Challenge mediates the relationship between negative age-based metastereotypes and overall thriving.

Hypothesis 3a: Challenge mediates the relationship between negative age-based metastereotypes and learning.

Hypothesis 3b: Challenge mediates the relationship between negative age-based metastereotypes and vitality.

Turnover intentions

Our rationale for the right side of the conceptual model is as follows. Due to the critical value of human capital, the identification of turnover intention determinants is at the heart of the agenda of organizations willing to retain their most strategic asset (Chang, Wang, & Huang, 2013). Turnover intentions are a negative job attitude that refers to the conscious and deliberate willingness to leave an organization (Chang, Wang, & Huang, 2013). Since turnover intentions are commonly regarded as a direct antecedent of actual voluntary turnover behavior (Wong & Cheng, 2020), a better understanding of the individual and contextual features that inhibit intentions to leave the organization would help managers increase the effectiveness of retention practices (Chang, Wang, & Huang, 2013). This knowledge is particularly useful in countries high in power distance and low in masculinity – like Portugal – in which the turnover intentions–behavior link is stronger (Wong & Cheng, 2020).

Given that thriving at work occurs through the simultaneous experience of acquiring new competencies and feeling energized (Spreitzer et al., 2005), it is likely that this positive psychological state of growth and development reduces turnover intentions (Anjum, Marri, & Khan, 2016; Hennekam, 2017). This might be the case because professional contexts in which workers thrive are likely to be perceived as supportive and hence attractive environments for employees (Cho, Johanson, & Guchait, 2009; Zhai, Wang, & Weadon, 2020). Furthermore, a recent meta-analysis showed that thriving at work correlates weakly and negatively with turnover intentions (Kleine, Rudolph, & Zacher, 2019). Following recent calls for research on thriving at work to report both overall and dimension scores (Kleine, Rudolph, & Zacher, 2019; Prem et al., 2017), the following set of hypotheses was formulated:

Hypothesis 4: Overall thriving at work is negatively related to turnover intentions.

Hypothesis 4a: Learning is negatively related to turnover intentions.

Hypothesis 4b: Vitality is negatively related to turnover intentions.

Methodology

Participants and procedures

The participants of this study were recruited through the researcher professional and personal networks. The resulting convenience sample (Shaughnessy, Zechmeister, & Zechmeister, 2014) totaled 326 workers aged 19-to-68 (123 males, 203 females) working in 20 companies located in Portugal. Considering that 80% of the participants work in the service sector, the gender distribution of the sample (62.3% female) mirrors reasonably well the female labor force participation rate in the tertiary sector in Portugal. As of 2020, women accounted for 57.2% of the total

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Portuguese labor force in this sector (FFMS, 2021). Fifty-seven percent of the participants work in large companies (with more than 249 workers), 88% work full-time, and 22% hold a supervisor role. Most respondents were in a relationship (76%) and about 55% had completed higher education. The average age of participants was 41.84 years (SD = 12.78), the average tenure in the organization 12.93 years (SD = 11.58), and the average seniority in the job 14.02 years (SD = 11.71).

Participants' socio-demographic information and focal measures were collected using an online survey. The agism-related measures in the survey were randomized to avoid the order effect bias and to improve the quality of survey responses (Shaughnessy, Zechmeister, & Zechmeister, 2014). From the onset, participants were ensured that the survey followed the EU General Data Protection Regulation 2016/679 (GDPR), informed about the aims of the study, and about whom to contact regarding data confidentiality issues (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Participation in the study was individual, voluntary, and dropping out of the research was possible at any time. Upon this information, written informed consent was obtained from every participant.

All the scales were selected from the literature and then translated into Portuguese by translation experts using a translation/back-translation procedure. As negative age-based metastereotypes concern stereotypical beliefs other age groups hold about one's ingroup (Finkelstein, Ryan, & King, 2013), three age groups were generated using the following thresholds: younger workers (less than 35 years old); middle-aged workers (35–49 years old), and older workers (50 years old or above). This comprehensive age group classification is commonly used in the literature (Hennekam, 2017; Peters, Van der Heijden, Spurk, De Vos, & Klaassen, 2019) and aims to surpass the shortcomings of studying a single age group, thus providing an across lifespan research perspective (Bohlmann, Rudolph, & Zacher, 2018).

Bearing in mind the concerns raised by single respondents and the study's cross-sectional design, data were examined for common method variance through the Harman's single-factor test (Podsakoff et al., 2003). No single variable explained above 50% of the total variance in any of the three age group models. Subsequently, the marker variable technique (Lindell & Whitney, 2001) was used. Following recommendations (Lindell & Whitney, 2001; Schaller, Patil, & Malhotra, 2015), a theoretically unrelated marker variable – safety compliance (Neal & Griffin, 2006) – was included in the survey. The safety compliance scale refers to behaviors that develop an environment that supports safety. It comprises three items (e.g., 'I use all the necessary safety equipment to do my job'), and it was measured with the same 7-point Likert scale used for measuring criterion variables. The computation of zero-order correlations and corrected partial correlations was followed by the assessment of the significance of the corrected correlations (Lindell & Whitney, 2001; Schaller, Patil, & Malhotra, 2015). Partial correlations were not significantly smaller than the corresponding zero-order correlations, and hence concerns that common method variance inflates results are alleviated.

Mediation hypotheses were tested with model 4 of the Hayes macro PROCESS v3.5 for SPSS Statistics (Hayes, 2018). Following the guidelines suggested by Hayes (2018), significance tests for the indirect effects were based on percentile bootstrap confidence intervals (95% CIs, seed number = 007) derived from 10,000 bootstrapped samples. The right part of our model was examined with polynomial regression with response surface analysis (Shanock, Baran, Gentry, Pattison, & Heggestad, 2010) to explore whether the (in)congruence between learning and vitality scores is related to changes in the relationship between thriving and turnover intentions (Bohlmann, Rudolph, & Zacher, 2018; Kleine, Rudolph, & Zacher, 2019).

Measures

Unless stated otherwise, participants answered on a 5-point response scale ranging from 1 (never) to 5 (all the time). Single-source data were collected given that focal variables are inherently idiosyncratic constructs.

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Negative age-based metastereotypes

Six items were adapted from Oliveira and Cabral-Cardoso (2018) to measure negative age-based metastereotypes held by each of the three age groups under examination (younger, middle-aged, and older). In this way, three scales were developed. Items were structured as follows 'My [younger/middle-aged/older] colleagues feel that I contribute less because of my age.' The interitem reliabilities of these measures range from $\alpha = .90$ (middle-aged workers) to $\alpha = .95$ (younger workers).

Age-based stereotype threat

Workers rated their experience of threat through a 3-item scale developed by Shapiro (2011) with interitem reliabilities of $\alpha = .94$ (younger workers) and $\alpha = .95$ (middle-aged and older workers). An example item is 'I am concerned that my actions might poorly represent workers of my age group.'

Challenge

A 3-item measured adapted from Finkelstein, King, and Voyles (2015, 2019) captured the challenge reaction. A sample item is 'I'm feeling motivated to show others at work that I am better than their expectations they have of me because of my age,' and the interitem reliabilities of these scales range from $\alpha = .71$ (middle-aged workers) to $\alpha = .76$ (older workers).

Thriving at work

Building on the measure validated by Porath et al. (2012), the overall thriving at work scale comprised of 10 items, five for learning (one reversed) and five for vitality (one reversed). All items were measured with a 7-point Likert scale, from 1 = strongly disagree to 7 = strongly agree. A sample item of the learning component is 'I continue to learn more and more as time goes by,' and of the vitality component is 'I feel alive and vital.' All the thriving scales showed good interitem reliabilities (Tables 1–4). Additionally, confirmatory factor analyses (CFA) were performed for each age group separately. The analyses showed that the two sets of five items loaded above .50 on separate latent learning and vitality dimensions for younger ($\chi^2(33, N = 104) = 52.26$, RMSEA = .08, CFI = .95, TLI = .94), middle-aged ($\chi^2(33, N = 119) = 57.43$, RMSEA = .08, CFI = .95, TLI = .94), and older workers ($\chi^2(33, N = 102) = 43.43$, RMSEA = .06, CFI = .97, TLI = .96). Moreover, these two factors loaded on a second-order latent factor representing thriving at work ($\chi^2(34, N = 104) = 63.92$, RMSEA = .09, CFI = .93, TLI = .91), ($\chi^2(34, N = 119) = 75.79$, RMSEA = .10, CFI = .92, TLI = .90), and ($\chi^2(34, N = 102) = 58.04$, RMSEA = .08, CFI = .94, TLI = .92), for younger, middle-aged and older workers, respectively.

Turnover intentions

Turnover intentions were measured with a 4-item scale (one reversed) and rated on a 6-point Likert scale, from 1 = strongly disagree to 6 = strongly agree (Nissly, Mor Barak, & Levin, 2005). A sample item is 'I occasionally think about leaving this organization.' In this study, the interitem reliabilities of these measures range from $\alpha = .70$ (older workers) to $\alpha = .87$ (younger workers).

Control variables

Chronological age, gender, and organizational tenure were included as control variables since previous research showed that these between-person variables may be related to thriving (Hennekam, 2017; Niessen, Sonnentag, & Sach, 2012), as well as with turnover intentions (Chang, Wang, & Huang, 2013).

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Results

Table 1 presents descriptive statistics, the correlation matrix, and Cronbach's alphas across the entire sample. Tables 2, 3, and 4 report the statistics for the younger, middle-aged, and older age groups, respectively. All scales have reasonable to very good internal consistency alphas.

Analytical procedures

The factorial structure of the scales (negative age-based metastereotypes, age-based stereotype threat, challenge, learning, and vitality) was analyzed through CFAs conducted in AMOS.

For reasons of clarity, CFA results are hereafter reported by age group. Younger workers' CFA results showed that all items loaded higher than .40 on their respective scales and that a five-factor model ($\chi^2(196, N = 104) = 300.39$, RMSEA = .07, CFI = .94, TLI = .92) fits the data better than (1) a four-factor model with negative age-based metastereotype reactions combined ($\chi^2(199, N = 104) = 376.92$, RMSEA = .09, CFI = .89, TLI = .87: χ^2 difference $[df = 3] = 76.53$, $p < .001$), (2) a four-factor model with thriving dimensions combined ($\chi^2(199, N = 104) = 335.14$, RMSEA = .08, CFI = .92, TLI = .90: χ^2 difference $[df = 3] = 34.75$, $p < .001$), and (3), a three-factor model with agism measures combined ($\chi^2(202, N = 104) = 616.71$, RMSEA = .14, CFI = .74, TLI = .71: χ^2 difference $[df = 6] = 316.32$, $p < .001$). Regarding the middle-aged workers group, item loadings were also above. 40 on the respective scales and a five-factor model ($\chi^2(195, N = 119) = 333.43$, RMSEA = .08, CFI = .92, TLI = .91) fits the data better than (1) a four-factor model with negative age-based metastereotype reactions combined ($\chi^2(198, N = 119) = 415.34$, RMSEA = .10, CFI = .88, TLI = .86: χ^2 difference $[df = 3] = 81.91$, $p < .001$), (2) a four-factor model with thriving dimensions combined ($\chi^2(199, N = 119) = 419.33$, RMSEA = .10, CFI = .88, TLI = .86: χ^2 difference $[df = 4] = 85.9$, $p < .001$), and (3), a three-factor model with agism measures combined ($\chi^2(201, N = 119) = 820.07$, RMSEA = .16, CFI = .65, TLI = .60: χ^2 difference $[df = 6] = 486.64$, $p < .001$). Finally, along the same lines of the previously mentioned CFAs, older workers' CFA results showed similar loading values and that a five-factor model ($\chi^2(194, N = 101) = 332.42$, RMSEA = .08, CFI = .91, TLI = .910) fits the data better than (1) a four-factor model with negative age-based metastereotype reactions combined ($\chi^2(198, N = 101) = 414.69$, RMSEA = .11, CFI = .86, TLI = .84: χ^2 difference $[df = 4] = 82.27$, $p < .001$), (2) a four-factor model with thriving dimensions combined ($\chi^2(198, N = 101) = 436.92$, RMSEA = .11, CFI = .85, TLI = .82: χ^2 difference $[df = 4] = 104.5$, $p < .001$), and (3), a three-factor model with agism measures combined ($\chi^2(201, N = 101) = 770.77$, RMSEA = .17, CFI = .64, TLI = .59: χ^2 difference $[df = 7] = 438.35$, $p < .001$). Furthermore, collinearity statistics indicated that multicollinearity was not a concern – Variance Inflation Factor (VIF) ranging from 1.06 (middle-aged workers' challenge scale) to 1.65 (younger workers negative age-based metastereotypes scale), and tolerance values ranging from .61 (younger workers negative age-based metastereotypes scale) to .94 (middle-aged workers' challenge scale).

Hypotheses testing

For parsimonious reasons, gender was retained in the younger and middle-aged worker mediation models, and chronological age and organizational tenure were excluded from further mediation analyses (Carlson & Wu, 2012). Since mediator effects may change due to the presence of other mediators, hypotheses 1 to 3b were tested through a parallel multiple mediator model (Hayes, 2018). Moreover, our theoretical model predicted a detrimental (via age-based stereotype threat) and a beneficial (via challenge) mediation pathway from negative age-based metastereotypes to thriving (MacKinnon, Coxe, & Baraldi, 2012). Regression coefficients and other statistics pertinent to mediation models' analyses are summarized in Table 5. Path coefficients are covered in the statistical diagrams in Figure 2.

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Table 1. Descriptive statistics and correlations (overall sample)

Variable	*M*	SD	1	2	3	4	5	6	7
1. Overall thriving	5.49	.89	(.87)						
2. Learning	5.76	.99	.87***	(.83)					
3. Vitality	5.22	1.03	.87***	.50***	(.81)				
4. Turnover intentions	2.78	1.38	−.31***	−.29***	−.24***	(.83)			
5. Gender	–	–	−.13*	−.10	−.11*	−.04	–		
6. Chronological age	41.84	12.78	−.06	−.06	−.04	−.26***	−.04	–	
7. Organizational tenure	12.93	11.58	−.02	−.03	.00	−.19**	−.01	.78***	–

Notes. *$p < .05$, **$p < .01$, ***$p < .001$ level (two-tailed), $N = 326$ for all variables. Reliabilities (coefficient alpha) are in parentheses.

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Table 2. Descriptive statistics and correlations (younger workers)

Variable	*M*	SD	1	2	3	4	5	6	7	8	9	10
1. Negative age-based metastereotypes	2.28	1.06	(.95)									
2. Age-based stereotype threat	1.96	1.06	.54***	(.94)								
3. Challenge	3.08	1.07	.31**	−.04	(.72)							
4. Overall thriving	5.59	.96	−.34***	−.55***	.29**	(.87)						
5. Learning	5.82	1.07	−.28**	−.52***	.23*	.90***	(.83)					
6. Vitality	5.37	1.04	−.33**	−.45***	.29**	.88***	.59***	(.74)				
7. Turnover intentions	3.28	1.53	.24**	.22*	.03	−.38***	−.36***	−.31**	(.87)			
8. Gender	–	–	.01	.17	−.29**	−.22*	−.24*	−.16	.09	–		
9. Chronological age	26.21	3.79	−.21*	−.20*	−.18	.07	.09	.04	−.37***	.00	–	
10. Organizational tenure	3.47	3.00	−.18	−.22*	−.11	.12	.13	.08	−.27**	.09	.51**	–

Notes. *$p < .05$, **$p < .01$, ***$p < .001$ level (two-tailed), $N = 104$ for all variables. Reliabilities (coefficient alpha) are in parentheses.

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Table 3. Descriptive statistics and correlations (middle-aged workers)

Variable	*M*	SD	1	2	3	4	5	6	7	8	9	10
1. Negative age-based metastereotypes	1.62	.68	(.90)									
2. Age-based stereotype threat	2.13	1.23	.37***	(.95)								
3. Challenge	2.56	.98	.23*	.11	(.71)							
4. Overall thriving	5.44	.90	−.34***	−.45***	.18	(.89)						
5. Learning	5.77	.96	−.20*	−.31**	.18	.87***	(.84)					
6. Vitality	5.10	1.05	−.38***	−.47***	.14	.88***	.54***	(.85)				
7. Turnover intentions	2.62	1.31	.27**	.27**	−.06	−.31***	−.26**	−.29**	(.86)			
8. Gender	–	–	.02	.03	.11	−.22*	−.17	−.23*	.00	–		
9. Chronological age	42.81	3.80	−.03	.07	.17	−.08	−.14	−.00	−.21*	−.02	–	
10. Organizational tenure	11.23	7.44	−.16	−.14	−.02	.05	.05	.04	−.21*	−.06	.36***	–

Notes. *$p < .05$, **$p < .01$, *** $p < .001$ level (two-tailed), $N = 120$ for all variables. Reliabilities (coefficient alpha) are in parentheses.

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Table 4. Descriptive statistics and correlations (older workers)

Variable	*M*	SD	1	2	3	4	5	6	7	8	9	10
1. Negative age-based metastereotypes	2.13	.92	(.92)									
2. Age-based stereotype threat	2.27	1.21	.43***	(.95)								
3. Challenge	2.72	.92	.24*	.32**	(.76)							
4. Overall thriving	5.45	.80	−.40***	−.47***	.09	(.84)						
5. Learning	5.69	.93	−.38***	−.30**	.03	.82***	(.81)					
6. Vitality	5.22	.98	−.27**	−.47***	.12	.82***	.34***	(.82)				
7. Turnover intentions	2.47	1.16	.20*	.11	−.10	−.32**	−.35***	−.18	(.70)			
8. Gender	–	–	.07	−.05	.10	.07	.08	.07	−.27**	–		
9. Chronological age	56.65	4.46	.04	−.05	.13	.11	.06	.11	.20*	−.13	–	
10. Organizational tenure	24.57	11.15	.02	−.08	−.11	.02	−.01	.05	.12	.02	.60***	–

Notes. *$p < .05$, **$p < .01$, ***$p < .001$ level (two-tailed), $N = 102$ for all variables. Reliabilities (coefficient alpha) are in parentheses.

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Table 5. Regression coefficients, standard errors, and parallel multiple mediation model summary information

	Consequent														
	Age-based stereotype threat			Challenge			Thriving			Learning			Vitality		
Antecedent	Coeff.	SE	*p*	Coeff.	SE	*p*	Coeff.	SE	*p*	Coeff.	SE	*p*	Coeff.	SE	*p*
Younger workers negative age-based metastereotypes	.54	.08	.00	.30	.09	.00	−.23	.09	.01	−.16	.11	.16	−.29	.11	.01
Age-based stereotype threat	–	–	–	–	–	–	−.36	.09	.00	−.46	.11	.00	−.27	.10	.01
Challenge	–	–	–	–	–	–	.34	.08	.00	.32	.10	.00	.36	.09	.00
Constant	.08	.10	.42	−.17	.11	.14	.06	.09	.50	.02	.11	.86	.10	.10	.33
	$R^2 = .30$			$R^2 = .15$			$R^2 = .43$			$R^2 = .36$			$R^2 = .33$		
	$F(2, 101) = 21.48.\ p = .00$			$F(2, 101) = 8.59.\ p = .00$			$F(4, 99) = 18.53.\ p = .00$			$F(4, 99) = 13.86.\ p = .00$			$F(4, 99) = 12.24.\ p = .00$		
Middle-aged workers negative age-based metastereotypes	.38	.09	.00	.24	.09	.01	−.23	.07	.00	−.15	.09	.10	−.31	.09	.00
Age-based stereotype threat	–	–	–	–	–	–	−.32	.07	.00	−.26	.09	.00	−.38	.08	.00
Challenge	–	–	–	–	–	–	.26	.07	.00	.25	.08	.00	.27	.08	.00
Constant	.04	.11	.66	.07	.11	.57	−.20	.08	.02	−.11	.10	.27	−.29	.10	.00
	$R^2 = .14$			$R^2 = .06$			$R^2 = .36$			$R^2 = .20$			$R^2 = .37$		
	$F(2, 117) = 9.51,\ p = .00$			$F(2, 117) = 3.68,\ p = .03$			$F(4, 115) = 15.95,\ p = .00$			$F(4, 115) = 6.98,\ p = .00$			$F(4, 115) = 16.77,\ p = .00$		
Older workers negative age-based metastereotypes	.43	.09	.00	.23	.10	.02	−.22	.07	.00	−.32	.10	.00	−.12	.09	.20
Age-based stereotype threat	–	–	–	–	–	–	−.36	.07	.00	−.21	.10	.03	−.50	.09	.00
Challenge	–	–	–	–	–	–	.24	.07	.00	.17	.09	.06	.30	.09	.00

(*Continued*)

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Table 5. (*Continued.*)

	Consequent														
	Age-based stereotype threat			Challenge			Thriving			Learning			Vitality		
Antecedent	Coeff.	SE	*p*	Coeff.	SE	*p*	Coeff.	SE	*p*	Coeff.	SE	*p*	Coeff.	SE	*p*
Constant	.00	.09	1.00	.00	.10	1.00	−.05	.06	.45	−.10	.09	.25	.00	.08	.96
	$R^2 = .18$			$R^2 = .06$			$R^2 = .35$			$R^2 = .20$			$R^2 = .31$		
	$F(1, 100) = 22.18$, $p = .00$			$F(1, 100) = 5.82$, $p = .02$			$F(3, 98) = 17.39$, $p = .00$			$F(3, 98) = 8.10$, $p = .00$			$F(3, 98) = 14.50$, $p = .00$		

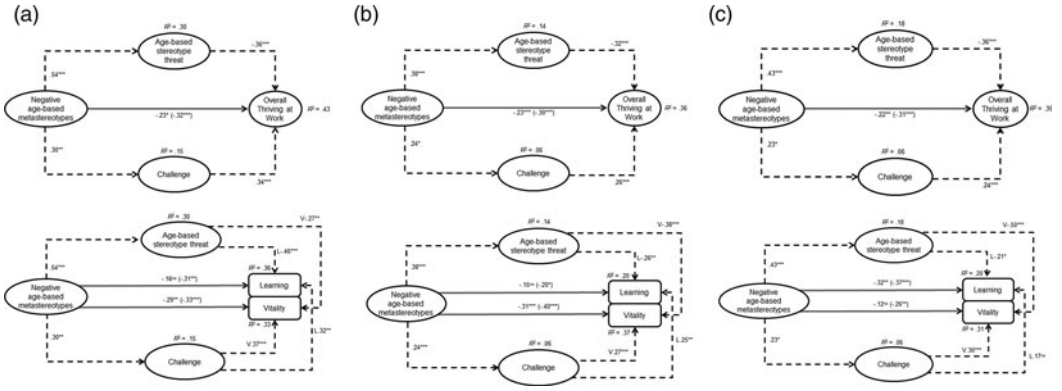


Figure 2. Parallel multiple mediator models. Path coefficients for younger workers (panel A), middle-aged workers (panel B), and older workers (panel C). Numbers inside parentheses represent the total effect of negative age-based metastereotypes on thriving at work. ***$p < .001$, **$p < .01$, *$p < .05$.

Negative age-based metastereotypes were negatively associated with overall thriving across age groups. Hence, hypothesis 1 was supported. Taking a closer look at the relationships between negative age-based metastereotypes and both components of thriving, a rather nuanced picture emerges. No significant relationships were found between younger and middle-aged workers negative age-based metastereotypes and learning, and between older workers negative age-based metastereotypes vitality. Herewith, hypotheses 1a and 1b were partially supported.

For the sake of clarity, results are henceforth reported by age group. Analyses showed significant indirect effects of younger workers negative age-based metastereotypes through age-based stereotype threat on overall thriving (β = −.21, 95% CI [−.37, −.08]), and also through challenge (β = .11, 95% CI [.03, .21]). Overall, the partially mediated model explained 43% of the thriving variance. The middle-aged group mediation model explained 36% of the thriving variance, with the following indirect effects through age-based stereotype threat (β = −.14, 95% CI [−.24, −.05]), and through challenge (β = .07, 95% CI [.01, .15]). Similarly, the older workers mediation model explained 35% of the thriving variance, and indirect effects on overall thriving through age-based stereotype threat (β = −.19, 95% CI [−.31, −.08]), and through challenge (β = .07, 95% CI [.01, .14]) were found. Pairwise comparisons between the two indirect effects in this model showed a statistically significant difference (*C*1 = .12, 95% CI [.01, .24]). Taken together, these results supported hypotheses 2 and 3.

Hypotheses 2a, 2b, 3a, and 3b rest on the assumption that the way stressors are understood may yield differential effects on learning and vitality (Prem et al., 2017). As can be seen in Table 5, mixed results were found. Specifically, indirect effects on learning through age-based stereotype threat for younger (β = −.23, 95% CI [−.40, −.09]), and middle-aged workers (β = −.10, 95% CI [−.21, −.02]) were evinced, whereas no significant effect was observed in the older workers age group (β = −.10, 95% CI [−.21, .02]). Furthermore, positive indirect effects of negative age-based metastereotypes on learning through challenge were found for younger (β = .09, 95% CI [.01, .19]), and middle-aged workers (β = .06, 95% CI [.01, .13]), and no significant effect was found for older workers (β = .04, 95% CI [−.01, .11]). Therefore, hypotheses 2a and 3a were partially supported. As regards vitality, statistically significant indirect effects of both mediators were found across age groups. The threat and the challenge effect were higher among older workers (β = −.22, 95% CI [−.34, −.10]), and younger workers (β = .11, 95% CI [.03, .20]), respectively. Hence, hypotheses 2b and 3b were supported.

The right part of our model was explored through hierarchical multiple regression (chronological age, gender, and organizational tenure as control variables), and polynomial

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regression with response surface analysis. The fourth hypothesis proposed that overall thriving is negatively related to turnover intentions. As predicted, these two constructs were negatively associated (β = −.34, SE = .06, $p < .001$), supporting hypothesis 4. In line with expectations, learning (β = −.26, SE = .06, $p < .001$) and vitality (β = −.13, SE = .06, $p < .05$) were also negatively linked to turnover intentions. Therefore, hypotheses 4a and 4b were supported. Although unpredicted, regression analyses by age group showed the usefulness of considering thriving dimensions discretely. Learning was negatively related to turnover intentions among younger (β = −.22, $p < .05$, SE = .11), and older workers (β = −.33, $p < .001$, SE = .09), but unrelated to middle-aged workers turnover intentions (β = −.18, $p = .08$, SE = .10). Conversely, a significant negative relationship between vitality and turnover intentions was only found in the middle-aged workers group (β = −.21, $p < .05$, SE = .09).

Post hoc examination of learning and vitality (in)congruence

Considering that both learning and vitality predict turnover intentions in the overall sample, and following recent recommendations on the thriving and aging literature (Bohlmann, Rudolph, & Zacher, 2018; Kleine, Rudolph, & Zacher, 2019; Prem et al., 2017), we examined whether or not the (dis)agreement between learning and vitality scores predicted turnover intentions. In order to disentangle effects of different combinations of learning and vitality on turnover intentions, we followed the approach suggested by Shanock et al. (2010). As such, descriptive information about the discrepancy level between the two thriving dimensions was computed (Table 6). Since most participants held discrepant values, we proceeded to polynomial regression with response surface analysis.

Results depicted in Figure 3 show the benefits of the post hoc examination. The negative slope ($a1$: β = −.40, $p < .001$, SE = .12) along the line of congruence ($x = y$) indicates that turnover intentions decreased as both learning and vitality increased. The concave surface along the line of incongruence ($a4$: β = −.22, $p = .05$, SE = .11) is marginally significant, indicating that turnover intentions decreased more sharply as the degree of the discrepancy between learning and vitality increased. Overall, turnover intentions decreased as learning and/or vitality increased, although the joint sense of learning and vitality had a stronger effect on reducing turnover intentions.

Discussion

This study was set out aiming to: (1) examine the role played by workplace agism, namely negative age metabeliefs and associated reactions in shaping thriving at work and (2) explore the relationship of overall thriving at work and different combinations of learning and vitality with turnover intentions.

Regarding the first aim, our findings clearly demonstrated that negative intergroup age metabeliefs (Shiu, Hassan, & Parry, 2015) were negatively associated with thriving at work. Consistent with the idea that younger workers are especially concerned about how they are perceived by others (Wang, Burlacu, Truxillo, James, & Yao, 2015), and with recent empirical research (Finkelstein et al., 2019; von Hippel et al., 2019), younger workers experienced higher levels of negative age-based metastereotypes than older and middle-aged workers. Additionally, this study indicated that middle-aged workers are also vulnerable to metastereotype consequences, thus challenging the assumption that 'middle-aged workers seem to represent an idealized worker about whom expectations are consistently quite positive' (Finkelstein, Ryan, & King, 2013, p. 21). It is interesting to note that although negative age-based metastereotypes were negatively related to overall thriving throughout the working life, no significant relationships were found between metastereotypes held by younger and middle-aged workers and learning. Given that younger and middle-aged workers are offered more opportunities to learn when compared with older workers (Raemdonck, Beausaert, Fröhlich, Kochoian, & Meurant, 2014), and tend to have a more

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Table 6. Frequencies of learning levels over, under and in-agreement with vitality levels

(In)congruence	Percentage	Mean learning	Mean vitality
Learning more than vitality	26.7 ($n = 87$)	6.10	4.48
In agreement	46.3 ($n = 151$)	5.97	5.49
Vitality more than learning	27 ($n = 88$)	5.06	5.5

Note. $N = 326$.

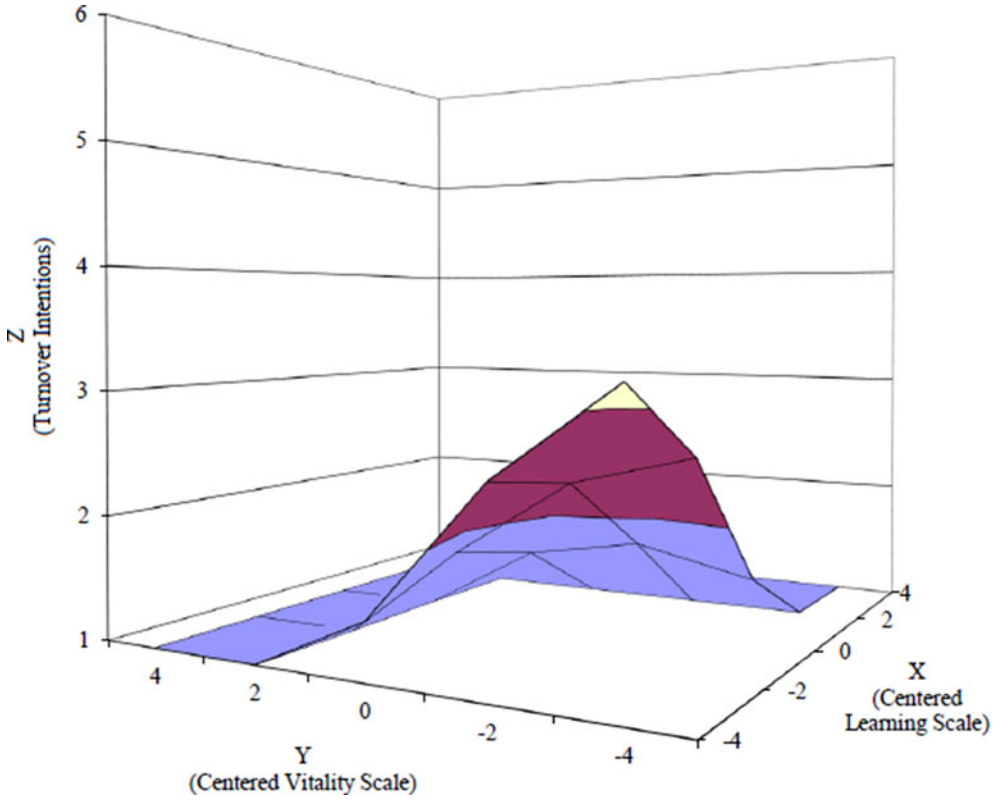


Figure 3. Turnover intentions as predicted by the learning and vitality (in)congruence.

expansive occupational future time perspective than older workers (Rudolph, Kooij, Rauvola, & Zacher, 2018), metastereotypes *per se* are not likely to obstruct learning experiences in these two age groups. In contrast, organizational obstacles for older workers learning stemmed from negative stereotypes about these workers willingness to participate in learning activities (Ng & Feldman, 2012; Raemdonck et al., 2014) which might reduce their learning opportunities. Additionally, this result may be explained by a few individual level factors. Because older workers have a more constrained perception of their future in the employment context, there is a preference for social relatedness over knowledge-related goals (Rudolph et al., 2018). It is likely that they are protecting themselves from the strain generated by learning activities through avoidance behaviors since those types of activities might confirm negative stereotypes damaging older workers group reputation and image (Kanfer & Ackerman, 2004; Oliveira & Cabral-Cardoso, 2018; Raemdonck et al., 2014; Tajfel & Turner, 1979). Another related finding was that vitality was not negatively associated with older workers negative age-based metastereotypes. These results

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differ from recent work that showed that older workers tend to react to negative age metabeliefs by means of disengagement (von Hippel et al., 2019). This discrepancy may be due to ingroup identification levels of older workers. Since the likelihood of negative age-based metastereotypes to trigger avoidance behaviors and work disengagement is greater in highly identified older workers (Oliveira & Cabral-Cardoso, 2017), it seems possible that these results may be due to low levels of ingroup identification. Indeed, dissociative age-group responses are one of the coping strategies older individuals often use to deal with age stigma (Weiss & Lang, 2012). Additionally, since older workers are more likely to focus on prevention or regulation of losses than on career growth (Damman, Henkens, & Kalmijn, 2013), the hindering effect negative age metabeliefs could play in reducing older workers growth opportunities becomes negligible.

This study confirmed that negative age-based metastereotypes trigger a mixed set of responses, which in turn shape thriving at work to different extents. Both threat and challenge responses were found across all age groups (Finkelstein et al., 2019; LePine, Podsakoff, & LePine, 2005; Searle & Auton, 2015), with threat and challenge exhibiting a negative and a positive effect on overall thriving, respectively. Interestingly, the challenge reaction was significantly higher in younger workers when compared with other age groups. This could partly be explained by the fact that younger workers are especially prone to feedback seeking behaviors to fit coworkers' expectations (Wang et al., 2015). Therefore, to promote their need to belong and to be seen by others in positive light (Tajfel & Turner, 1979), negative metastereotypes must be challenged. Findings are in line with this rationale, as challenge appraisals among younger workers gave rise to higher levels of learning and vitality than in any of the other age groups (LePine, LePine, & Jackson, 2004, 2005; Prem et al., 2017). In short, demands placed upon younger workers by negative age-based metastereotypes seem to be perceived partially as surmountable and having potential for growth, and for this reason, younger workers invest their energy and engage in learning activities to overcome those demands (Lazarus & Folkman, 1984; Mendes & Jamieson, 2012). Mediation models' results across age groups indicated that the magnitude of the negative total effect is quite similar, and that indirect effects of negative age-based metastereotypes through age-based stereotype threat were greater than through challenge. Taken together, these findings indicate that negative age-based metastereotypes may become an important workplace stressor (Lazarus & Folkman, 1984; Searle & Auton, 2015; Yang & Li, 2021). This may be particularly acute for older workers as results show that the two indirect effects are statistically different (Hayes, 2018), suggesting that the detrimental effect of negative agist metabeliefs on thriving is far from being canceled by the attempt to challenge negative age-based metastereotypes (Finkelstein et al., 2019). This is in line with previous studies which proposed negative age-based metastereotypes as relevant drivers of older workers age-based stereotype threat experience (Oliveira & Cabral-Cardoso, 2017, 2018), and reported negative links between negative agist metabeliefs and desirable job attitudes (von Hippel et al., 2019). Furthermore, it is worth noting that the magnitude of the relationships between negatively framed constructs like negative age-based metastereotypes or age-based stereotype threat and thriving may well be underestimated due to the positive manifold effect (Kleine, Rudolph, & Zacher, 2019). If that is the case, workers of all ages may be even more vulnerable to the harmful consequences of negative age-based metastereotypes than our findings indicate.

As with direct effects, the analysis of the mediation's total effects for learning and vitality separately sheds important light on the mechanisms by which agism influences the thriving experience. For instance, examination of mediation results on overall thriving alone fails to capture important specific characteristics of the agism–thriving link, particularly among middle-aged and older workers (Kleine, Rudolph, & Zacher, 2019; Prem et al., 2017). Although negative age-based metastereotypes had a homologous negative total effect on younger workers learning and vitality, results showed that the total effect is much larger on vitality than learning among middle-aged workers, and the opposite trend was observed in the older workers age group. Those two latter findings are somewhat surprising. Regarding middle-aged results, they might

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be related to the canceling effects on thriving dimensions of the threat and challenge reactions (LePine, Podsakoff, & LePine, 2005; Searle & Auton, 2015), and to the aforementioned lack of connection between middle-aged workers negative age-based metastereotypes and learning. Another possible explanation for this may be that being used to be seen in positive light (Finkelstein, Ryan, & King, 2013), middle-aged workers negative age-based metastereotypes impair quite seriously the quality of interactions with coworkers (Chiaburu & Harrison, 2008; Tajfel & Turner, 1979), which in turn may have a disproportionate negative effect on vitality levels (Niessen, Sonnentag, & Sach, 2012; Spreitzer et al., 2005). Against a background of negative consequences of negative age-based metastereotypes on vitality, the low levels of negative age-based metastereotypes experienced by middle-aged workers found in this study turn out to be positive for them. As regards older workers, and contrary to expectations (LePine, LePine, & Jackson, 2004, 2005), the challenge reaction did not positively affect learning at work, while age-based stereotype threat seemed to discourage employees from acquiring new knowledge, hence reducing workplace learning. Concurrent explanations for the older workers thriving experience may be found on the negative direct effect of metastereotyping on learning (Niessen, Sonnentag, & Sach, 2012; Prem et al., 2017), on the fact that no link was observed between metastereotyping and vitality, and on the larger effect of threat on vitality (Finkelstein et al., 2019; Kulik, Perera, & Cregan, 2016). Overall, these findings showed that, in order to better understand employee growth and development, the thriving scholarship would benefit from more investigation that combines thriving as a compound with a look at learning and vitality separately (Oliveira, 2021).

The second aim of this study was to assess the relationship of overall thriving at work and different combinations of learning and vitality with turnover intentions. Consistent with Spreitzer et al.'s (2005) definition of thriving and with empirical evidence (Anjum, Marri, & Khan, 2016), turnover intentions decreased as learning and/or vitality increased, although the joint sense of learning and vitality had a stronger effect on reducing turnover intentions. Importantly, although turnover intentions were negatively predicted by overall thriving and by each of the thriving dimensions in the entire sample, results by age group provide additional evidence for the relevance of looking at learning and vitality consequences separately (Kleine, Rudolph, & Zacher, 2019). For instance, learning was driving the results among younger and older workers, whereas vitality had no effect on reducing turnover intentions. In contrast, for middle-aged workers only vitality seemed to play a role in diminishing intentions to leave the organization. The present findings are significant in at least two major respects. First, although learning opportunities are frequently part of the retention package most organizations offer to younger workers, seldom is the same level of learning provision available to older workers (Raemdonck et al., 2014). Even considering that older workers commonly have lower turnover intentions than younger workers (Chang, Wang, & Huang, 2013), and that older workers mean age in this study is relatively low ($M = 56.65$) placing them about 10 years from reaching retirement age, organizations willing to retain this growing segment of the workforce (Boehm, Kunze, & Bruch, 2014) should include the provision of more learning activities in their older workers retention efforts. Second, previous research has emphasized that heedful interactions with others are among the most frequent reasons for experiencing vitality (Niessen, Sonnentag, & Sach, 2012; Paterson, Luthans, & Jeung, 2014). In this vein, it seems likely that for middle-aged workers, high-quality working relationships and supportive coworker behaviors are the main factors explaining their turnover intentions (Cho, Johanson, & Guchait, 2009). In other words, middle-aged workers who experience heightened levels of vitality likely perceive the work environment as more attractive, and as a result, do not want to leave the organization. Taken together, this study's findings indicate that a clearer distinction between thriving dimensions role might serve as a valuable catalyst for research on the thriving throughout the lifespan.

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Implications for theory and practice

By intersecting the agism and thriving literature, this research has valuable theoretical and practical implications. First, findings emphasize that negative age-based metastereotypes are chiefly perceived as workplace stressors that hinder thriving at work. Therefore, we contend they should be included as antecedents in the thriving nomological network. Second, alongside with negative metastereotypes pivotal role in shaping the thriving experience, we enrich the literature on thriving at work by confirming thriving differential relationships with workplace agism reactions (Prem et al., 2017). Moreover, this research contributes to an across the lifespan perspective of thriving at work by reporting findings by age group, which, in turn, point to the need for more theoretical refinement to account for different agism coping profiles contingent on workers age group (Finkelstein et al., 2019; Wang et al., 2015). For instance, findings challenge the assumption that negative age-based metastereotypes do not influence middle-aged workers' work experience. In the same vein, a third contribution pertains the usefulness of the examination of thriving dimensions separately (Oliveira, 2021). Given that thriving refers to the joint sense of elevated levels of learning and vitality (Spreitzer et al., 2005), antecedents that obstruct one of these components are sufficient to impede thriving. This study showed, for example, that older workers negative age-based metastereotypes do not seem to influence vitality, but that they seem to prevent the acquisition of new knowledge/skills. Relatedly, this study revealed a set of nuanced relationships between thriving dimensions and turnover intentions across age groups. In short, this study provides additional evidence for the relevance of looking at learning and vitality combinations to better understand the thriving at work nomological network.

This study suggests several courses of action for practitioners. Our findings suggest that to foster thriving across the lifespan, organizational interventions should focus on reframing metastereotypical negative beliefs as challenges (Casad & Bryant, 2016; von Hippel et al., 2019). Interventions that simultaneously value positive social identities of stereotyped workers (Tajfel & Turner, 1979), and emphasize an overarching sense of identity with the workgroup/organization (Haslam, Eggins, & Reynolds, 2003), are in the best place to circumvent the harmful effects of negative age-based metastereotypes on thriving. For instance, collective self-enhancement programs like mentoring or reverse mentoring are likely to contribute to the creation of cross-cutting ties between workers of all ages, hence allowing the development of heedful relationships with coworkers (Niessen, Sonnentag, & Sach, 2012). Furthermore, these interventions may be perceived as an organizational endorsement of the value of intergenerational collaboration, thus providing age identity safety to stigmatized workers which sets the ground for workers to reciprocate such organizational support by engaging, for instance, in more learning activities and being more energetic at work (Cropanzano & Mitchell, 2005; Kleine, Rudolph, & Zacher, 2019). Another important practical implication is that organizations interested in retaining particularly younger and older workers would benefit greatly by providing context and opportunity for distinct types of learning activities. Such an environment should include formal and non-formal training, but especially informal learning as it is often not perceived as learning by the learners themselves, thus bypassing even workers negative self-images (Eraut, 2004).

Limitations and suggestions for future research

Several caveats are acknowledged in this research, which bring about questions requiring further investigation. First, because most constructs are hard to capture from sources other than workers themselves, constructs were assessed through self-reports. Although we alleviated common method bias concerns, there is still the risk that findings are a product of the measurement method (Podsakoff, MacKenzie, & Podsakoff, 2012). Also, we cannot exclude the endogeneity problem as omitted variables might be driving the associations between constructs in our model (Antonakis, Bendahan, Jacquart, & Lalive, 2010). Given that boundary conditions were not included in our model, future research regarding the moderation role played by individual

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factors such as core self-evaluations in the appraisal of workplace stressors such as negative age metabeliefs (Finkelstein et al., 2019), would be of great help in crafting organizational interventions aimed at facilitating thriving. Second, the cross-sectional design of this study is not the most suitable to capture age-related effects over time and hence we do not exclude that reverse and reciprocal effects may exist between, for instance, turnover intentions and thriving at work dimensions. Although we believe sound theoretical explanations for relationships between variables were provided, this means causal claims in our model are open to debate. In this context, longitudinal designs and experience sampling methods are needed to analyze the temporal nature of the agism–thriving link. Specifically, since there has been scant research exploring the challenge reaction, and because middle-aged workers have been mostly left aside by research, we suggest future investigations about these two topics should be undertaken. Finally, since agism entails complex patterns rooted, among others, in gender dimensions (Duncan & Loretto, 2004) and considering the gender imbalance of our sample, researchers could try to replicate our findings with different gender sample distributions. Overall, forthcoming research in this area should clearly concentrate on the investigation of the thriving dimensions role throughout the lifespan to better inform the thriving scholarship.

Conclusion

This paper started with the claim that 'every coin has two sides' and developed several arguments to support this assertion regarding thriving at work. Our findings showed the theoretical relevance and practical usefulness of considering the two sides of the 'thriving coin' (learning and vitality) throughout the lifespan. It is said that Protagoras once stated that 'there are two sides to every question.' It might well be the case of thriving at work in today's organizations.

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