Can I Work With Older Workers if I Hold Stereotypes Regarding Their Competence? The Consequences for Stereotype Holders

Can I work with older workers if I hold stereotypes regarding their competence? The consequences for stereotype-holders

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Abstract

The aging workforce and increasing workplace age diversity have directed research attention to the consequences of age-related stereotypes. Prior research has mainly focused on the effects for the target of these stereotypes (e.g., older workers). Using the social identity approach and social capital theories as a framework, we suggest that holding negative age-related stereotypes (i.e., about older workers' competence) is negatively associated with individual (i.e., positive job-related affective wellbeing), group-related (i.e., workgroup involvement and group relations) and organizational-related outcomes (i.e., perceived organizational climate) for younger and middle-aged employees. In addition, we expect this relationship to be mediated by ineffective work interactions, which captures a decrease in younger/middle-aged workers' frequency and appreciation of task-oriented interactions with their older coworkers. Our hypotheses were tested with a time-lagged design involving 104 participants between 23 and 49 years old (M = 35.62, SD = 6.75). Findings supported our hypotheses. We conclude discussing theoretical implications and practical recommendations.

Keywords: age stereotypes, age-diverse workforce, social categorization, social capital

Public Significance Statement

With growing workplace age diversity, age-related stereotypes are more likely to occur. While research has largely explored the consequences of age-related stereotypes for target populations, our study puts forward that age stereotypes have a negative impact on those who hold them too and suggests that this occurs through relational aspects of the work environment.

Can I work with older workers if I hold stereotypes regarding their competence? The consequences for stereotype-holders

The global workforce is rapidly aging, bringing about a number of changes within the workplace, such as greater participation of older workers and increased age diversity. In fact, increasing life expectancy and decreasing birth rates in industrialized countries are requiring employees to extend their working life and postpone their retirement age to prevent a labor shortage and a crisis of pension fund systems. As the share of older workers (i.e., 50 years and above; Truxillo et al., 2017) in relation to younger ones is growing, and especially so after the COVID-19 pandemic, age stereotypes are at even greater risk to happen (Bellotti et al., 2021; Jungmann et al., 2020; Sutter et al., 2022).

In broad terms, age stereotypes are defined as stereotypical assumptions and expectations on someone based on their age (Posthuma & Campion, 2009) and reflect a prejudicial view of a certain people based on their membership to a certain age group (Tajfel & Turner, 1986). In their review, Finkelstein et al. (2014) summarized research results on age stereotypes in the workplace and found that (a) much of the literature focused on the content of stereotypes which vary according to workers' age, such as older workers being perceived as less competent and capable of performing well (e.g., Cuddy & Fiske, 2002; Fiske et al., 2002; Fiske et al., 1999); (b) many studies investigated the degree to which age stereotypes reflect real age differences and showed that most age-related stereotypes are not supported by evidence-based findings, such as meta-analytical findings did not support the idea that performance declines with age (e.g., Ng & Feldman, 2012; Posthuma & Campion, 2009); and (c) several researchers studied the effects that age stereotypes have on workers and work processes and found that age stereotypes guide people's attitudes and behaviors, such that in the work setting older workers might be less

selected for job openings and developmental opportunities (e.g., Abrams et al., 2016; Cadiz et al., 2022; Gioaba & North, 2022; Zaniboni et al., 2019).

Nonetheless, in reviewing the literature on age stereotypes in the workplace Murphy and DeNisi (2021) pointed at some discrepancies between empirical findings from laboratory and field studies, with the latter providing less conclusive findings than the former (Gioaba & North, 2022; Murphy & DeNisi, 2021). While some authors suggested that negative age stereotypes might have their strongest effect when intergroup contact is limited (e.g., Murphy & DeNisi, 2021), limited findings supported the role of quantity of contact in buffering negative stereotypes (Carpenter & Dickinson, 2011; Hawick et al., 2021; Sánchez-Castelló et al., 2022). This prompted the need to examine additional factors, such as between-groups dynamics (Van Dijk et al., 2017). Furthermore, research has largely focused on the consequences of age-related stereotypes for the target population, such as for older workers (e.g., Chiesa et al., 2019; Finkelstein et al., 2014; Hanrahan et al., 2022; Weiss & Perry, 2019; Zaniboni et al., 2019) and devoted less attention to stereotype-holders themselves – and which consequences they might face (e.g., Paleari et al., 2019). To our knowledge, Paleari et al. (2019)'s research represents the only empirical attempt in this direction. Specifically, findings showed that holding ageist beliefs toward the opposite age group (i.e., younger toward older coworkers and viceversa) was associated with increased counterproductive work behaviors and decreased identification with the company, through the effect of quality of intergroup contacts (Paleari et al., 2019).

When studying negative age-related stereotypes toward older adults in work-related contexts, competence has been suggested to be a core dimension (Harris et al., 2017; Ng & Feldman, 2012; Sutter et al., 2022). In the present study, we addressed these issues and expected that negative stereotypes about older colleagues' (i.e., 50 years old and above) competence

would negatively impact several individual (i.e., job-related affective wellbeing), group-related (i.e., work group involvement and group relations) and organizational-related outcomes (i.e., perceived organizational climate) for the younger/middle-aged stereotype-holders themselves. We also posited this relationship to be mediated by the effectiveness of work interactions with older coworkers (i.e., the cognitive and affective evaluation of work interactions with older coworkers related to tasks, which involve exchange of feedback and information relevant to one's job as well as given and received instrumental support).

We based our model on the social identity approach (Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987) and on social capital theories (Adler & Seok-Woo, 2002; Lin, 2001). The former serves as the basis for negative age-related stereotypes as a result of self-categorization processes separating younger/middle-aged and older workers into distinct groups. This juxtaposition is thought to be associated with perceiving older workers' as "old" and as such, "incompetent" (Cuddy & Fiske, 2002; Fiske et al., 1999; Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987). Through ineffective work interactions, social capital theories help identify how incompetence stereotypes about older coworkers might impact different outcomes (i.e., individual, group-related and organizational-related outcomes) for the stereotype-holders themselves (Lin, 2001).

In doing so, we advanced literature in multiple ways. First, we placed our focus on the impact of negative age-related stereotypes on stereotype-holders themselves, adding to the traditional target-oriented research focus. In fact, prior literature mainly focused on the impact of age-related stereotypes on the targets of stereotypes (i.e., older workers) (Hanrahan et al., 2022; Murphy & DeNisi, 2021; Truxillo et al., 2017). Second, we strengthened Paleari et al. (2019)'s findings by assessing a specific work related negative age stereotype toward older workers (i.e.,

competence) and extended the results to a different set of outcomes (i.e., young/middle-age's individual wellbeing associated with their job). Third, we explored the mediation effect of work interactions, which represents both a cognitive and affective evaluation of task-related intergroup contact (Fiske et al., 2002; Harris et al., 2017; Ng & Feldman, 2012; Van Dijk et al., 2017). Hence, we responded to the call to go beyond the quantity/quality single-faceted conceptualization of work interactions, and explored a new mechanism through which stereotypes toward older coworkers may act within the workplace for younger and middle-aged workers (Cadiz et al., 2022; Gioaba & North, 2022; Murphy & DeNisi, 2021; Van Dijk et al., 2017). Fourth, we analyzed the costs of holding age-related stereotypes in a real work setting. As pointed out by Cadiz et al. (2022) and Murphy and DeNisi (2021), there is a lack of field studies supporting the effect of negative age-related stereotypes in the workplace.

The Social Identity Approach and Social Capital Theories

Outside and inside organizations, individuals frequently rely on shortcuts to facilitate judgments about others. These shortcuts are based on generalized beliefs about the characteristics of a group and are also called stereotypes (Cuddy et al., 2011). As suggested by the social identity approach, these stereotypical beliefs promote the categorization of people into separate and juxtaposing groups and can lead to a biased treatment of the target population (Cuddy et al., 2011; Tajfel & Turner, 1986; Turner et al., 1987). With increasing age diversity in the workplace, older individuals are at higher risk to be the target of specific age-related stereotypes by means of younger and middle-aged colleagues (Cuddy & Fiske, 2002; Cuddy et al., 2005; Jungmann et al., 2020).

Research findings on age-related stereotypes have revealed different stereotypical beliefs that people hold against older workers (Finkelstein et al., 2014), such as being less competent,

creative, and, in general, bringing limited value to the work environment (Fiske et al., 2002; Fiske et al., 1999). Competence is a particularly important dimension within organizations, as it refers to one's ability to pursue work-related goals (Fiske et al., 2002). If a group of coworkers is considered incompetent, work interactions (i.e., the exchange of feedback and information relevant to one's job, as well as the given and received instrumental support) with this particular group could be less effective (Cuddy et al., 2011).

Work (i.e., task-related) interactions are ineffective when the amount of information, support, and feedback exchanged between coworkers drops (Lin, 2001). When this happens, conflicts may arise and employees may be less able to reach their work goals, requiring more time to perform their tasks (Janz & Tjosvold, 1985). Additionally, through effective work interactions, employees exchange information and give each other instrumental support~~,~~ which are relational resources contributing to social capital (Adler & Seok-Woo, 2002; Kouvonen et al., 2006; Lin, 2001). Studies suggested that with high levels of available social capital, individuals benefit in terms of increased performance (Rosenthal, 1997; van de Brake et al., 2020), job satisfaction (Ommen et al., 2009), work engagement (Kunze et al., 2021; Meng et al., 2018), and affective commitment (Parzefall & Kuppelwieser, 2012). Nonetheless, individuals need to be motivated to interact with each other, otherwise the benefits of social capital are reduced and resources are lost (Lin, 2001).

To sum up, holding incompetence stereotypes about a group of coworkers might have important negative implications for between-groups workplace interactions and for social capital thereof. This might be observed through negative outcomes for stereotype-holders themselves.

The social identity approach suggests incompetence stereotypes might arise from the juxtaposition between old and young/middle-aged (i.e., aged less than 50) employees, which

produces a distorted view of reality where “old” equals “incompetent” (Cuddy & Fiske, 2002; Fiske et al., 1999; Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987). This may limit the opportunities to build advantageous social capital for younger/middle-aged stereotype-holders, resulting in limited instrumental support and resource exchange. In line with social capital theories (Lin, 2001), the effectiveness of work interactions is reduced and stereotype-holders potentially face a number of negative consequences.

Hypotheses Development: Incompetence Stereotypes toward Older Workers, Ineffective Work Interactions, and Work Outcomes

Within organizations, self-categorization processes juxtaposing young and older coworkers (Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987) might result in stereotypical competence evaluations, according to which older employees are seen as less capable of achieving task-related goals than their younger counterparts (Avolio & Barrett, 1987; Rosen & Jerdee, 1976). In general, as suggested by Cuddy et al. (2011), competence evaluations solicit negative judgments of others' ability to achieve their goals. For example, Fiske et al. (1999) found that women’s perceived incompetence was soliciting negative evaluations of their ability to pursue work-related goals. Older workers are also often the target of competence stereotypes, being perceived as less competent and productive than their younger counterparts (Cuddy & Fiske, 2002; Fiske et al., 2002; Fiske et al., 1999; Weiss & Perry, 2019). Likewise, older workers’ age-based incompetence evaluations are likely to be associated with lower contributive capacity to instrumental support for work-related issues. Additionally, literature suggests that incompetence stereotypes may impact the effectiveness of work interactions. For example, Darmayani and colleagues (2020) interviewed 71 health professionals on the implications of stereotypes on effective collaboration and the quality of care. Findings suggested

that incompetence stereotypes may inhibit communication between team members. In fact, participants perceived stereotypes as a barrier to effective collaboration in the workplace (Darmayani et al., 2020). Furthermore, findings from an experimental study in business situations showed that perceptions of competence acted as an indicator of the negotiator's ability to provide instrumental support and significantly affected participants' decision to collaborate with the negotiator (Zhang et al., 2021). Lastly, a cross-sectional study conducted by Chen and King (2002) found that negative age-related stereotypes (i.e., incompetence beliefs) impacted participants' perceived satisfaction with communication dynamics with the outgroup.

Extending these results through the social identity approach (Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987), we expect to find a positive relationship between younger/middle-aged incompetence stereotypes toward older workers and ineffective work interactions with them.

Hypothesis 1: Incompetence stereotypes of younger/middle-aged workers toward older coworkers are positively related to ineffective work interactions with them.

While holding stereotypes may hinder coworkers interactions, social capital theories suggest this may negatively affect those who hold stereotypes against their coworkers given that ineffective work interactions might be one possible indicator of low levels of social capital (Adler & Seok-Woo, 2002; Lin, 2001). Low levels of social capital are thought to produce negative effects on individual, group-related, and organizational-related outcomes such as wellbeing, intergroup relations, organizational identification and climate (Cullen-Lester et al., 2016). Additionally, the benefit of effective work interactions is the acquisition of relevant

resources such as competence, enabling the achievement of task-related goals and other work-related outcomes (Lin, 2001). Hence, we propose that lower levels of social capital, measured through ineffective work interactions, will negatively affect individual (i.e., positive job-related affective wellbeing), group-related (i.e., work group involvement and group relations) and organizational-related (i.e., perceived organizational climate) outcomes.

Concerning the individual outcomes, we focused our study on positive job-related affective wellbeing. In fact, employees may experience a variety of positive and/or negative affective reactions related to their job that may depend on different factors such as workplace interactions (Totterdell et al., 2004; Van Katwyk et al., 2000). These affective reactions are indicators of employees' job-related wellbeing (Van Katwyk et al., 2000; Warr, 1990). Work-related interactions can be important aspects affecting job-related positive affect/affective wellbeing (Cullen-Lester et al., 2016). In a meta-analytic study, Cullen-Lester et al. (2016) found a positive relationship between given and received task-related support and different dimensions of wellbeing, including positive affect (e.g., Baker & Dutton, 2007, in Cullen-Lester et al., 2016). Based on meta-analytical findings (Cullen-Lester et al., 2016) and on social capital literature we expect ineffective work interactions to negatively impact younger and middle-aged positive job-related affective wellbeing.

Hypothesis 2a: Ineffective work interactions with older coworkers are negatively related to younger/middle-aged workers' positive job-related affective wellbeing (H2a).

Considering the group-related outcomes, work group involvement and relational group conflict may be of particular interest in studying young and middle-aged work interactions with

older coworkers. In fact, previous findings supported the role of successful work interactions for group integration and identification (e.g., Campbell & Crowther, 1989; Horstmeier et al., 2016). For example, using a longitudinal design Horstmeier et al. (2016) found that incremental variations in work interactions and coworker support were positively associated with changes in team identification. For young and middle-aged workers that have similar achievement-oriented motives (Beier et al., 2022), the effect of ineffective work interactions on work group involvement and group conflict could be aggravated by the reduced capacity to perform their work goals (Janz & Tjosvold, 1985; Lin, 2001),

Work group involvement refers to individual perceptions of integration and participation within the work group (Hobman et al., 2004; Mor-Barak & Cherin, 1998). Given that ineffective work interactions entail limited opportunities for task-related information exchange (Chen & King, 2002; Zhang et al., 2021), they are likely to be associated with decreased work group involvement. In fact, empirical evidence supported the importance of information exchange and group participation for higher levels of teamwork/work group involvement (Ballangrud et al., 2020; Bulcke et al., 2016). At the same time, we expect that disrupted collaboration within the workplace will entail greater relational group conflict. Relational group conflict indicates a situation where there is tension and mistrust between members of different groups, arising from their interpersonal interactions (Jehn, 1995). Previous studies suggested that ineffective work interactions are predictive of relational group conflict (e.g., Camelo et al., 2014; King et al., 2009; Standifer et al., 2013). Nonetheless, this relationship remains unexplored from an age perspective. Hence, we base our hypotheses on the social categorization approach (Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987) and theories on social capital (Adler &

Seok-Woo, 2002; Lin, 2001) theorizing on the negative effect of ineffective work interactions with older coworkers on group-related outcomes of young and middle-aged workers.

Hypothesis 2b-c: Ineffective work interactions with older coworkers are negatively related to younger/middle-aged workers' work group involvement (H2b) and positively related to relational group conflict (H2c).

As per the organizational-related outcomes, we investigated the relationship between ineffective work interactions and perceived organizational climate. Organizational climate is a multifaced construct depicting both employees' experiences within organizations and the meaning given to these experiences (Ostroff et al., 2003; Schneider et al., 2013). Here, we address the affective component of climate and satisfaction with organizational climate. Theories on social capital suggest that effective work interactions are a valuable asset promoting positive climate perceptions (Adler & Seok-Woo, 2002; Baker & Dutton, 2007; Lin, 2001; Parzefall & Kuppelwieser, 2012). Therefore, ineffective work interactions are believed to negatively influence employees' satisfaction with organizational climate. Hence, based on social capital theories (Adler & Seok-Woo, 2002; Baker & Dutton, 2007; Lin, 2001; Parzefall & Kuppelwieser, 2012) we propose the following:

Hypothesis 2d: Ineffective work interactions with older coworkers are negatively related to younger/middle-aged workers' perceived organizational climate (H2d)

In the present study, we tested a mediated model in which young and middle-aged workers' incompetence stereotypes toward older coworkers negatively affect stereotypes-holders individual (i.e., job-related affective wellbeing), group-related (i.e., work group involvement and group relations) and organizational-related outcomes (i.e., perceived organizational climate), through ineffective work interactions. To our knowledge, previous evidence showed that holding stereotypical views about different age groups decreases the quality of interactions, which in turn negatively affects group- and organizational-level outcomes (Paleari et al., 2019). More specifically, the authors performed two field studies with a cross-sectional and a longitudinal design respectively, and found that participants' ageism toward the opposite age group (i.e., ageism toward older coworkers for younger ones, and viceversa) negatively affected group- (i.e., counterproductive work behaviors toward all members of the organization) and organizational-level outcomes (i.e., identification with the company) (Paleari et al., 2019), through reduced quality of contacts. Findings did not support a significant impact on individual-level outcomes (i.e., wellbeing), thus the impact on individual-level outcomes and further group- and organizational-related outcomes are relevant and need some further investigation.

Hence, we hypothesized that holding negative stereotypes about the competence of older coworkers distorts younger and middle-aged evaluations for work-related matters producing ineffective work interactions (Lin, 2001), which include both a cognitive (i.e., frequency) and affective (i.e., quality) evaluation. In turn, this limits younger and middle-aged opportunities to build advantageous social capital, producing several negative outcomes for the self.

In particular, we propose that holding incompetence beliefs about older colleagues negatively affect stereotype holders' individual (i.e., positive job-related affective wellbeing;

H3a), group-related (i.e., work group involvement and group relations; H3b-H3c), and organizational-related (i.e., perceived organizational climate; H3d) outcomes (Figure 1).

Hypothesis 3a: Incompetence stereotypes toward older coworkers are negatively and indirectly related to younger/middle-aged employees' positive job-related affective wellbeing through ineffective work interactions (H3a).

Hypotheses 3b-c: Incompetence stereotypes toward older coworkers are negatively and indirectly related to younger/middle-aged employees' work group involvement (H3b) and positively and indirectly related to relational group conflict (H3c) through ineffective work interactions.

Hypothesis 3d: Incompetence stereotypes toward older coworkers are negatively and indirectly related to younger/middle-aged employees' perceived organizational climate through ineffective work interactions (H3d).

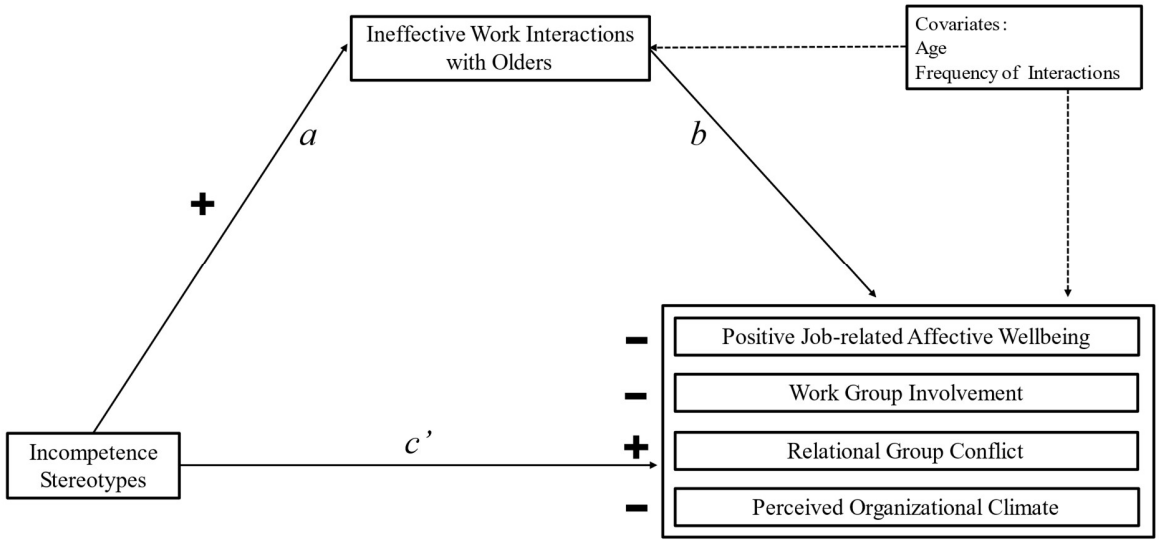
Method

Sample

For this study, we recruited 104 employees from an organization located in northern Italy. Participants were aged between 23 and 49 years old (M = 35.62, SD = 6.75) and had an average job tenure of 7 years (SD = 5.23). The gender distribution was balanced with 56 (53.8%) females and 48 (46.2%) males. In terms of professional roles, 73 (70.2%) employees worked as social workers, 15 (14.4%) as coordinators, while the remaining 16 (15.4%) employees covered a variety of supportive functions such as administrative work. Most employees worked part-time (n = 100; 96.1%), where only 4 (3.9%) worked full-time. Data collection was carried out on site during work hours and was overseen by a member of the research team involved in the study.

Figure 1

Hypothesized mediation model



Data were collected at two time points (T1 and T2) with a 3-4 weeks' time-lag. At T1, participants provided demographic information such as age, sex, education, job type, job tenure, and working hours and answered questions concerning their perceptions of older colleagues' competence. At T2, participants answered questions about frequency and quality of interactions with older colleagues and their perceived work group involvement, relational group conflict, organizational climate, and job-related wellbeing. As suggested by Podsakoff et al. (2003), we employed some procedural strategies checking for common method variance, such as instructing participants that there are no right or wrong answers so that they should answer as honestly as possible, and protecting their anonymity. In respect to the latter, answers were matched using a univocal code produced by participants.

Measures

T1 Incompetence Stereotypes

We used 5 items measuring stereotypical beliefs about older coworkers' competence (Fiske et al., 2002; Fiske et al., 1999). Participants were asked to rate how much, in their opinion, older workers are generally perceived as competent in their organization. Sample item is "How competent are older workers?". For the purpose of this study, items were reverse scored to reflect incompetency. Items were measured on a 5-point Likert scale ranging from 1 (Not at all) to 5 (Completely). The alpha's reliability is .88.

T2 Ineffective Work Interactions with Olders

Work interactions were measured with a 16-item adaptation of O'Driscoll et al. (2004)'s scale. The scale measured the effectiveness of work (i.e., task-related) interactions through four aspects of support: information exchange, emotional concern, instrumental (i.e., task-oriented) aid, and feedbacks. The scale explicitly asked younger/middle-aged workers to rate the items thinking about their work interactions with older coworkers. Half of the items focused on the cognitive component of task-oriented interactions, thus measuring the frequency of work interactions on a 5-point Likert scale ranging from 1 (Never) to 5 (All the time). Sample item is "Given/Received helpful information or advice to/from older coworkers" (reverse scored). The other half focused on the affective component elicited by task-oriented interactions, thus measuring participants' satisfaction with such interactions on a 5-point Likert scale ranging from 1 (Not satisfied at all) to 5 (Completely satisfied). The alpha's reliability is .96.

T2 Work Group Involvement

We used the 5-item scale from Hobman et al. (2004) to measure individual perceptions of integration and participation within the work group. Sample item is "Team members make me feel a part of decisions". Participants were asked to answer on a 5-point Likert scale ranging from 1 (Completely disagree) to 5 (Completely agree). The alpha's reliability is .89.

T2 Relational Group Conflict

Four items were used to measure relational intragroup conflict (Jehn, 1995). The items detect the amount of relational conflict within the workplace on a 5-point Likert scale ranging from 1 (None) to 5 (A lot). Sample item is "How much tension is there among members in your work unit?". The alpha's reliability is .95.

T2 Perceived Organizational Climate

Individual's perceptions of organizational climate were assessed using four ad hoc items. The items investigate employees' degree of satisfaction with the climate and with their colleagues, the workgroup, management, and within the organization in general. Sample item is "The climate within my organization". Participants were asked to answer on a 5-point Likert scale ranging from 1 (Not satisfied at all) to 5 (Completely satisfied). The alpha's reliability is .82.

T2 Positive Job-related Affective Wellbeing

Employees wellbeing was measured using ten items from the Job-related Affective Wellbeing scale (Van Katwyk et al., 2000). The items reflect positive emotions and feelings associated with ones' job and were measured on a 5-point Likert scale ranging from 1 (Never) to 5 (Always). Sample item is "My job made me feel enthusiastic". The alpha's reliability is .90.

Control Variables

Age of the participants and whether participants engaged in work interactions with older coworkers were used as control variables in our model. Participants' age was included since we incorporated both young and middle-aged workers (i.e., aged from 23 to 49 years old). Employees in this age range generally experience similar future time perspectives (Strough et al., 2016) and thus achievement-oriented motives (Beier et al., 2022). Moreover, evidence suggested

that work experiences are alike (Van Der Heijden, 2006). Nonetheless, we controlled for age to avoid possible confounding effects. The contact condition (i.e., having work interactions with older coworkers) has been recognized as one of the primary factors influencing between-groups conflict, ineffective communication, and prejudicial beliefs (i.e., stereotypes; e.g., Carpenter & Dickinson, 2011; Hean & Dickinson, 2005; Henry et al., 2015; Hewstone et al., 1994). We used a single item asking participants to rate if they have any work interaction with older coworkers on a 7-point scale ranging from "Never" to "Every Day". For the purpose of this study, we will refer to this variable as "frequency of interactions".

Results

Means, standard deviations, correlations, and reliabilities are reported in Table 1. Correlation analyses support a significant, positive relationship of incompetence stereotypes with ineffective work interactions ($r = .32$, $p < .01$) and relational group conflict ($r = .36$, $p < .01$) and a significant, negative relationship with work group involvement ($r = -.31$, $p < .01$), perceived organizational climate ($r = -.36$, $p < .01$), and job-related affective wellbeing ($r = -.28$, $p < .01$).

The mediation model was tested using model 4 of the PROCESS macro (Hayes, 2012). This procedure is particularly recommended to increase the estimates robustness for both standard errors and confidence intervals in small samples, as it enables the use of the bootstrapping method (i.e., 10,000 bootstrap samples) and the test of multiple regressions simultaneously (Preacher et al., 2007). Results of the mediation model including indirect effects are shown in Table 2.

The upper part of Table 2 shows the total effects, meaning the unmediated model values of the parameter estimate for the regression of the dependent variable on the independent. Results showed that incompetence stereotypes were negatively associated with work group

involvement (β = -.33, p = .03), perceived organizational climate (β = -.41, p = .001), and job-related affective wellbeing (β = -.25, p = .01). Conversely, incompetence stereotypes were positively associated with relational group conflict (β = .70, p <.001).

Table 1

Means (M), Standard Deviations (SD) and Correlations

Variable name	*M*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1. T1 Age	35.62	6.75	-							
2. T1 Frequency of Interactions	5.54	1.78	.173	-						
3. T1 Incompetence Stereotypes	2.49	.56	.107	-.069	(.88)					
4. T2 Ineffective Work Interactions with Olders	2.64	.73	-.042	-.413**	.321**	(.96)				
5. T2 Work Group Involvement	4.05	.66	-.150	.216*	-.312**	-.403**	(.89)			
6. T2 Relational Group Conflict	2.58	1.14	.066	-.189	.363**	.368**	-.514**	(.95)		
7. T2 Perceived Organizational Climate	3.41	.72	-.263**	.105	-.356**	-.408**	.619**	-.638**	(.82)	
8. T2 Positive Job-related Affective Wellbeing	3.20	.61	-.348**	.090	-.276**	-.299**	.479**	-.381**	.615**	(.90)

Note. n = 104. Values in brackets in the diagonal are reliability estimates.

*p < .05; **p < .01

The middle part of Table 2 displays the linear regressions of the independent variable X (i.e., incompetence stereotypes) and the covariates (i.e., age and frequency of interactions) on the mediator M (i.e., ineffective work interactions) and the results of the mediation model. Our first hypothesis (H1) stated that incompetence stereotypes would positively affect ineffective work interactions. Findings supported our hypothesis (β = .38, p =.001). Between the control variables, only frequency of interactions was related to ineffective work interactions (β = -.16, p < .001). The middle section of Table 2 further shows that ineffective work interactions were negatively

418 associated with work group involvement (β = -.28, p = .004), perceived organizational climate (β
419 = -.35, p =.001), and job-related affective wellbeing (β = -.21, p = .02) and were positively
420 associated with relational group conflict (β =.40, p = .02), thus supporting hypotheses H2a-H2d.
421 The significance of incompetence stereotypes' effect on work group involvement and
422 positive job-related affective wellbeing disappeared when accounting for the effect of ineffective
423 work interactions, thus suggesting a full mediation. The lower part of Table 2 shows the critical
424 values of the conditional indirect effects (Hayes, 2012). As can be seen, none of the confidence
425 interval included zero and incompetence stereotypes showed to have an indirect, negative effect
426 on all outcomes through ineffective work interactions. Hence, we can confirm hypotheses H3a-
427 H3d. We used de Heus (2012) correction of Fairchild et al. (2009) approach to R-squared effect
428 size measures[1] to calculate the unique proportion of variance of the dependent variable explained
429 by direct and indirect effects (Table 2).
430 To verify the adequacy of our sample size in relation to our hypothesized models, we
431 used Schoemann et al. (2017)'s tool to perform post-hoc Monte Carlo power analysis for indirect
432 effects. Acceptable cutoff is .80. Results[2] showed adequate power for all outcomes (i.e., .80 for
433 work group involvement, .98 for relational group conflict, and .94 for perceived organizational
434 satisfaction) except for positive job-related affective wellbeing (.53). To re-test the statistical
435 significance of our mediation model, we performed two alternative models. First, we replicated

[1] Formulas are the following:
$R^2_{ind} = (1-r^2_{MX})\beta^2_{ind}$
$R^2_{dir} = (1-r^2_{MX})\beta^2_{dir}$
$R^2_{ind} = 2\beta^2_{dir}\beta^2_{ind} + r^2_{MX}(\beta^2_{dir} + \beta^2_{ind})$
Were R being the proportion of variance by the direct and indirect effects, r the squared correlation between the independent variable and the mediator (MX), and β the beta coefficient for direct and indirect effects.
[2] Parameters are the following: Standardized coefficient as input method, 5000 for total power analysis replications, 20000 for the Monte Carlo draws per replications, 1234 default random seed, 95% for the confidence interval width.

the analyses with no control variables and the effects were still statistically significant. Confidence intervals for indirect effects were acceptable except for positive job-related affective wellbeing as dependent, 95% CI [-.19, .00]. Second, we tested a model where ineffective work interactions with older coworkers moderate the effect of incompetence stereotypes on our individual, group-related, and organizational-related variables of interest. None of the interactions were significant.

Discussion

The goal of our research was to investigate how incompetence stereotypes toward older coworkers affect young and middle-aged workers' individual (i.e., positive job-related affective wellbeing), group-related (i.e., work group involvement and relational group conflict) and organizational-related (i.e., perceived organizational climate) outcomes, through ineffective work interactions. We used the social identity approach (Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987) and social capital theories (Adler & Seok-Woo, 2002; Lin, 2001) as theoretical foundations for our hypotheses development and for our mediated model. Results supported our hypotheses, suggesting that young and middle-aged (i.e., aged less than 50) employees' prejudicial views of their older coworkers negatively relate to their ability to engage in effective task-oriented interactions with them, which reflected a loss of social capital. The less effective these interactions, the more young and middle-aged workers who hold stereotypes experienced a number of negative outcomes. In particular, this loss negatively affected their wellbeing (i.e., job-related affective wellbeing), their perceptions of being an integrative part of the team (i.e., work group involvement) and their general satisfaction with different aspects of the organization (i.e., perceived organizational climate).

Table 2

Mediation Model. Indirect effects are shown for each dependent variable (Y)

Total Effect	T2 Work Group Involvement R^2 = .40**	T2 Relational Group Conflict R^2 = .40***	T2 Perceived Organizational Climate R^2 = .44***	T2 Positive Job-related Affective Wellbeing R^2 = .44***
	β coeff. (SE)	*β coeff. (SE)*	*β coeff. (SE)*	*β coeff. (SE)*
T1 Incompetence Stereotypes (X)	-.33** (.11)	.70*** (.19)	-.41** (.12)	-.25* (.10)
Effect(s) of X on M	T2 Ineffective Work Interactions with Olders (M) R^2 = .51***			
	β coeff. (SE)			
T1 Age	-.001 (.01)			
T1 Frequency of Interactions	-.16*** (.04)			
T1 Incompetence Stereotypes (X)	.38** (.11)			
Effect(s) of M on Y	T2 Work Group Involvement R^2 = .48***	T2 Relational Group Conflict R^2 = .46***	T2 Perceived Organizational Climate R^2 = .54***	T2 Positive Job-related Affective Wellbeing R^2 = .49***
	β coeff. (SE)	*β coeff. (SE)*	*β coeff. (SE)*	*β coeff. (SE)*
T1 Age	-.02 (.01)	.01 (.02)	-.03*** (.01)	-.03*** (.01)
T1 Frequency of Interactions	.04 (.04)	-.05 (.07)	-.01 (.04)	.01 (.03)
T1 Incompetence Stereotypes (X)	-.23 (.11)	.55** (.19)	-.28* (.12)	-.17 (.10)
T2 Ineffective Work Interactions with Olders (M)	-.28** (.09)	.40* (.16)	-.35*** (.10)	-.21* (.09)

Table 2

Cont.

Indirect Effects of X on Y	Indirect effect	Boot *SE*	Boot LLCI	Boot ULCI
T2 Work Group Involvement	-.11	.05	-.22	-.02
T2 Relational Group Conflict	.15	.08	.01	.33
T2 Perceived Organizational Climate	-.14	.05	-.25	-.04
T2 Positive Job-related Affective Wellbeing	-.08	.04	-.17	-.01

Effect sizes	T2 Work Group Involvement	T2 Relational Group Conflict	T2 Perceived Organizational Climate	T2 Positive Job-related Affective Wellbeing
R^2_{ind}	.01	.02	.02	.01
R^2_{dir}	.05	.27	.07	.03
R^2_{inddir}	.02	.24	.04	.002

Note. n = 104. LLCI = lower limit confidence interval; ULCI = upper limit confidence interval. Results were obtained with 95% bias-corrected bootstrap confidence intervals from 10,000 bootstrap samples. R^2_{ind} = R-squared effect size for the indirect effect. R^2_{dir} = R-squared effect size for the indirect effect. R^2_{inddir} = R-squared effect size for the joint part of variance explained by both the direct and the indirect effects.

*$p < .05$; **$p < .01$; ***$p < .001$

Moreover, the inability to engage in effective task-oriented interactions with older coworkers added to the indirect effect of holding incompetence stereotypes on increased relationship conflict for young and middle-aged workers. Lastly, we found incompetence stereotypes to be associated with relationship group conflict and perceived organizational climate. This finding is consistent on the one hand with the social identity approach, which reports that stereotypes in the workplace might be antecedents of relational conflict (Couto et al., 2022; Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987). On the other hand, this is consistent with prior research on age diversity which reports that negative age stereotypes within organizations might be antecedents of negative organizational climate perceptions (Kunze et al., 2013; Kunze & Toader, 2019; Zacher & Gielnik, 2014).

Theoretical Implications

Our findings have two main theoretical implications. First, our study bridged the literature on age stereotypes with that of social capital (Li et al., 2021). In doing so, we addressed a gap in the literature and provided preliminary insights on the potential impact that young/middle-aged stereotypical beliefs about older coworkers' competence might have for the self through the loss of social capital resources. While an abundance of studies focused on the target population (e.g., Truxillo et al., 2017), our findings suggested that age stereotypes affect everyone involved in a work environment, by limiting employees' capability to effectively work together. While our results are consistent with those of Paleari et al. (2019), we also further contributed in that we used a more comprehensive measure of task-related interactions (i.e., encapsulating both quantity and quality evaluations of given/received interactions) and provided initial results on individual outcomes (i.e., positive job-related affective wellbeing). Second, given that field results were still unclear we advanced field-based knowledge on the mechanisms

through which negative age-related stereotypes toward older workers may act in the workplace (Cadiz et al., 2022; Murphy & DeNisi, 2021; Van Dijk et al., 2017). Specifically, we pointed at the effectiveness of work interactions, which include both a cognitive evaluation of frequency of given/received interactions and an affective evaluation. This finding leads to two further implications. On the one hand, we moved beyond age stereotypes research exploring quantity of contact only as a facilitating condition, which in fact have received limited support (Carpenter & Dickinson, 2011; Hawick et al., 2021; Sánchez-Castelló et al., 2022). By testing ineffective work interactions as a reaction of incompetence stereotypes as a mediating mechanism, we provided some initial support for the impact of relational aspects of the workplace and we answered Van Dijk et al. (2017) call for the investigation of between-groups dynamics. On the other hand, we suggested that effectiveness of task-oriented interactions with a particular age group might be ~~a~~ related to holding stereotypes toward that same age group. This is in line with the social identity approach and shows that age-related biases may impair complex aspects of working together (Tajfel & Turner, 1986; Tajfel et al., 1979; Turner et al., 1987).

Practical Implications

Our study presents three relevant practical implications. First, stereotypes based on competence might have detrimental effects on effective workplace collaboration and on several individual, group- and organizational-related outcomes for the self. Stereotypical attributions of competence based on demographic characteristics such as age are likely to be inaccurate (Truxillo et al., 2017) and yet pervasive and resistant to change (Charlesworth & Banaji, 2022). Hence, companies should adopt participatory approaches such as intervention mapping (Meng et al., 2019) to facilitate the acquisition of job-relevant knowledge of coworkers, therefore promoting accurate representations of each other. Moreover, participatory approaches seem to

successfully promote behavioral change while producing trust, communication, and cohesion increases in the workplace (Coleman, 1988; Hardeman et al., 2002; Kouvonen et al., 2006), potentially benefiting between-groups effective interactions.

Second, based on our results on ineffective work interactions managers might find it useful to develop mentoring programs, that have showed promising avenues in reducing age-related stereotypes such as incompetence stereotypes (Finkelstein et al., 2003; Wang & Fang, 2020). Besides the exposure with the stereotyped group, mentoring provides the opportunity to build trust and to highlight the goal-specific benefits that those coworkers can bring.

Third, we share previous recommendations to train managers and supervisors in team building, participative decision-making, and communication and as such, facilitate opportunities for between-groups interactions (Burmeister et al., 2020; Li et al., 2021). Leaders have the authority to shape group norms, conveying which behaviors are tolerated and which are not, and serving as allies for all stigmatized employees (Cuddy et al., 2011; Hebl et al., 2020). Moreover, leaders' behavior set the standard for all employees' behaviors such that when they act inclusively and interact effectively with all members of the organization, all employees are likely to behave similarly through identification (Keck et al., 2020; Randel et al., 2018).

Limitations and Future Research

Despite the theoretical and practical implications, this study has some limitations that must be considered in future research. First, we applied a mediation model with data collected at two time points. Future research should repeat the study using a longitudinal design with three time points. Our dependent and our mediator variables were collected at the same time-point and as such our model is possibly affected by common method bias (Podsakoff et al., 2003). In respect to this, we employed some procedural strategies by Podsakoff et al. (2003), such as

instructing participants that there are no right or wrong answers and to answer as honestly as possible as well as protecting their anonymity. Moreover, the self-report measure poses further concerns for common method bias (Podsakoff et al., 2003). A promising avenue to overcome the limitation of self-reported measures in studying between-group interactions is to include more objective measures, such as network analysis (Hollenbeck & Jamieson, 2015; Sánchez-Castelló et al., 2022). Despite the novel insights that our study bring, the limitations provided by our sample leave open questions on the effect of age-related stereotypes in the workplace (Murphy & DeNisi, 2021). In particular, the small convenience sample, mostly made of part-time employees, poses limits to the generalizability of our results. While this must be acknowledged and addressed in future studies, there is some evidence that working hours would not affect our model. More specifically, Iweins et al. (2013) compared stereotype's endorsement and intentions to quit between full-time and part-time workers and found no statistical differences. Hence, future research might examine different working populations and age-related stereotypes. For example, warmth stereotypes, corresponding to sociability and agreeableness evaluations, might be an interesting variable to assess when studying age-related stereotypes (Cuddy et al., 2011; Hanrahan et al., 2022). It is possible that different sectors experience a variability in the relevance of different age-related stereotypes. Lastly, considered the possible confounding effects of age and status/seniority (Posthuma et al., 2012) and the association between status and competence evaluations (Fiske et al., 2002), future studies might find useful including other variables such as status and tenure/seniority.

Conclusion

Grounded in the social identity approach and social capital theories, this study addresses the negative effect of age-related (i.e., toward older workers) incompetence stereotypes on

93 younger and middle-aged workers who hold the stereotypes. Specifically, we found that holding
94 incompetence stereotypes toward older coworkers decreased younger and middle-aged'
95 individuals' ability to effectively engage in task-related interactions with them. This in turn
96 negatively affects their job-related affective wellbeing, work group involvement, group relations,
97 and perceived organizational climate. Hence, our research pinpoints the detrimental effect that
98 holding age-related stereotypes have on those who hold them, within the workplace. We believe
99 this to have important implications at the theoretical and practical level, and we encourage future
100 studies to carry out closer and more objective investigations of the factors that might enhance or
101 buffer the effect of workplace-relevant age-related stereotypes.

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