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**To share or not to share: A social-cognitive internalization model to explain how age discrimination impairs older employees' knowledge sharing with younger colleagues**

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### Abstract

Older employees' knowledge sharing with younger colleagues is pivotal for organizational knowledge retention. We developed a social-cognitive internalization model that explains why older employees' knowledge sharing with younger colleagues is often inhibited. Specifically, we focused on perceived age discrimination at work as a threat to older employees' perceptions of their job-related capabilities (i.e., occupational self-efficacy), which in turn reduces older employees' knowledge sharing with younger colleagues. Study 1, a field study with 100 age-diverse employee dyads provided support for our framework. Older employees who perceived age discrimination showed lower occupational self-efficacy, which predicted less knowledge sharing with younger colleagues. To help organizations address this challenge, we extended our theorizing by considering organizational context and hypothesized supportive effects of the availability of age-specific HR practices (i.e., HR development and HR accommodation activities). We replicated the first study's findings in Study 2 using a three-wave survey with 472 older employees. Additionally, we found that HR accommodation practices strengthened the positive relation between occupational self-efficacy and knowledge sharing. Hence, HR accommodation practices constitute a double-edged sword: They helped older employees with higher occupational self-efficacy but impair knowledge sharing by older employees with lower occupational self-efficacy resulting from perceived age discrimination.

**Keywords:** global workforce aging; knowledge sharing; perceived age discrimination; occupational self-efficacy; age-specific HR practices; older employees

Older employees' knowledge sharing with their younger colleagues is essential for organizational knowledge retention and continued business success (Burmeister & Deller, 2016; Harvey, 2012). The link to business success is becoming increasingly important, as knowledge has become one of the main assets of organizations (Alvesson, 1993; Ipe, 2003). At the same time and in light of global population ageing, an ever-growing number of older employees are retiring, and they often take valuable knowledge with them that has not been passed on to others (Burmeister & Deller, 2016). To assist organizations in encouraging older employees to share their knowledge with younger colleagues, scholars have begun to examine the antecedents of knowledge sharing, which is defined as the "act of making knowledge available to others within the organization" (Ipe, 2003, p. 341), in age-diverse organizational settings (Sammarra et al., 2017; Schmidt & Muehlfeld, 2017).

Much of the existing research on knowledge sharing has relied on lifespan development theory (Baltes, 1987) and focused on characteristics that change across the work lifespan, such as motivation to share knowledge (Burmeister, Fasbender, et al., 2018; Burmeister & Deller, 2016). However, this perspective neglects that older employees' knowledge sharing is not only a question of individual motivation but also constitutes an other-oriented behaviour that is fundamentally intertwined with their social environment. For example, the knowledge sharer circulates information to another person; however, this other individual may potentially criticize the shared knowledge. In that regard, it is important to note that despite the expected positive consequences for an organization of older employees' knowledge sharing, older employees may not always be held in high esteem by others at work. The reality for many older employees is that they feel discriminated against due to their age rather than appreciated because of their knowledge (Department of Work and Pensions, 2015). To date, scholars (e.g., Avidor et al., 2016; Bayl-Smith & Griffin, 2014; Macdonald & Levy, 2016) have focused on the negative consequences of age discrimination in terms of the

well-being, job satisfaction, and early retirement intentions of “victims” (in this case, older employees). What we do not know, however, is how perceived age discrimination may affect older employees’ voluntary behaviour towards *others* – such as knowledge sharing with younger colleagues.

To help advance theory in this regard, we develop a social-cognitive internalization perspective based on the assumption that age discrimination constitutes a salient source of information concerning older employees’ judgement of their own occupational capabilities, which in turn affects how they behave towards others. This perspective can be used to explain the complex interplay among social experiences, internal cognitive processes, and other-oriented behaviour. We explain that age discrimination is a social phenomenon that not only provides detrimental information on how colleagues judge one’s work-related capabilities but also transmits an implicit meaning, as it devaluates the social group of the employee who is discriminated against. Threats to one’s social identity (i.e., a person’s sense of who they are based on group membership; Tajfel & Turner, 1986; Turner & Reynolds, 2001) imply a threat to one’s internal cognitive representation of one’s skills and capabilities, which can manifest in negative behaviours towards others who do not share the same social identity (in this case, younger employees).

By explicating and testing our social-cognitive internalization model (which is depicted in Figure 1), we aim to make three contributions to the literature: First, we connect the age discrimination and knowledge sharing literatures by adopting a social-cognitive perspective on age discrimination (Heslin et al., 2012). This perspective not only adds to our conceptual understanding of the antecedents of knowledge sharing beyond lifespan theory but is also practically relevant given that organizations make considerable efforts to promote knowledge retention by attempting to find new ways to encourage older employees to share their knowledge with younger colleagues (Newman & Hatton-Yeo, 2008).

Second, we consider a domain-specific mediator that is central to a social-cognitive perspective. Specifically, we focus on occupational self-efficacy (i.e., a person's beliefs about their work-related skills and abilities; Schyns & von Collani, 2002) as the process through which older employees' knowledge sharing with younger colleagues may be inhibited. Occupational self-efficacy constitutes the cognitive component that connects a social experience (i.e., being discriminated due to one's belonging to the social group of older employees) with a cognitive other-oriented behaviour (i.e., knowledge sharing with younger colleagues).

Lastly, a social-cognitive perspective further emphasizes the relevance of environmental factors belonging to the broader context (i.e., situational characteristics that affect the occurrence and meaning of functional relations between variables; Johns, 2006) in determining the interplay between person and behaviour. We translate this notion into the research context of knowledge retention, in which institutionalized practices used to manage older employees, such as age-specific human resource (HR) practices, are commonly used to increase the likelihood that an age-diverse organization profits from its diverse knowledge. Specifically, we argue for unique effects in the proposed social-cognitive mechanism by teasing apart age-specific HR development practices (i.e., HR activities designed to promote older employees' career development and optimize lifelong learning) and age-specific HR accommodation practices (i.e., HR activities designed to compensate for potential age-related losses in terms of physical or cognitive ability).

Overall, the social-cognitive internalization model presented in this research offers a nuanced explanation of how and when older employees' perceived age discrimination impairs younger employees' development as a result of receiving less knowledge from older employees. Ultimately, the proposed process and moderators may help organizations to address the challenge of knowledge retention more effectively.

### **Theoretical Background**

Our social-cognitive internalization model is rooted in a social-cognitive approach (Bandura, 1977; Chiesa et al., 2016), which that explains a person's psychosocial functioning in terms of a reciprocal determinism. This approach entails that behaviour, cognitive processes, and other personal and environmental factors operate as interacting determinants that influence each other (Bandura, 1986; Wood & Bandura, 1989). A social-cognitive approach has, for example, been utilized in the field of unemployment research (Heslin et al., 2012) to explain why employees who have been discriminated against begin to self-identify as members of a disadvantaged minority, experience reduced self-efficacy, and ultimately become discouraged workers (i.e., people who want to work but have ceased searching for employment due to anticipated failure). We draw from this approach in the context of age discrimination (Heslin et al., 2012) to explain the process and boundary conditions of older employees' knowledge sharing with their younger colleagues.

We specifically focus on older employees' knowledge sharing with younger colleagues – rather than a nonspecific group of colleagues – because of (a) the identity-relevance of this group for older employees and (b) the risky nature of knowledge sharing in age-diverse settings. First, the identity-relevance stems from the notion that people more or less automatically categorize themselves and others into groups based on perceived similarities (Allport, 1954; Tajfel & Turner, 1986; Turner & Reynolds, 2001). In the work setting, age constitutes an easily noticeable cue that is associated with a range of beliefs concerning values, attitudes towards work, job satisfaction, or knowledge sharing and receiving intentions (Burmeister, Fasbender, et al., 2018; Macky et al., 2008). When an individual experiences age discrimination at work, group differences become more salient (Finkelstein et al., 2015). This salience enhances an older employee's self- and other-categorization processes such that they become aware of their membership of the group of older employees, which differs from the

out-group of younger employees. An individual who is aware that they belong to a certain group and who perceives this group as being relatively worse off than another group may experience a devalued social identity, which may trigger distorted beliefs concerning out-group judgements (Roberts & Creary, 2013). Explaining older employees' knowledge sharing from the perspective of an out-group-oriented behaviour thus fits well with a social identity perspective on work-related incidents.

Second, knowledge sharing can be conceptualized as a voluntary behaviour "that provides others with the choice of whether and how to use the shared knowledge" (Gerpott, Fasbender, et al., 2020, p. 790). In this regard, knowledge sharing with younger colleagues is a risky endeavour for older employees because it enables younger employees to judge the quality of older employees' know-how (Husted & Michailova, 2002). Furthermore, it can imply a loss of competitive resources because the older employee is no longer the sole holder of valuable information and thus may be substituted (Joshi et al., 2010). To summarize, older employees' knowledge sharing with younger colleagues is interesting not only because it is essential for organizational knowledge retention and survival but also because younger employees constitute an out-group and thus a group with whom older employees potentially interact less than with prioritized in-group (i.e., same-aged) members, particularly when it comes to behaviours that make older employees vulnerable.

In what follows, we describe how a negative social experience on the part of older employees (i.e., perceived age discrimination) links to personal cognitive beliefs concerning their capabilities in work-related settings (i.e., occupational self-efficacy). We argue that occupational self-efficacy, in turn, affects older employees' knowledge sharing with younger colleagues as a cognitively effortful, other-oriented social behaviour (Study 1). We then turn to the role of age-specific HR practices as boundary conditions and explain that a differentiated perspective on HR development and HR accommodation practices should

manifest in unique relations with older employees' cognitive capacities and knowledge-sharing behaviour (Study 2).

### **Study 1: Perceived Age Discrimination and Knowledge Sharing**

#### **Perceived Age Discrimination and Occupational Self-Efficacy**

Self-efficacy constitutes a core aspect of Bandura's social-cognitive perspective, one that determines behaviour (Bandura, 1986, 1991). In the work context, this dynamic set of beliefs concerning one's capabilities is referred to as occupational self-efficacy. People process various sources of information to update their judgement of their domain-specific capabilities. This information not only stems from one's own performance observations but can also be informed by vicarious experiences or others' reactions towards an individual (Chiesa et al., 2016). This latter information is particularly interesting with regard to our model because older employees often experience negative reactions or disadvantageous treatment due to their age (i.e., perceived age discrimination; Zaniboni et al., 2019). While age discrimination may affect people of any age, perceived age discrimination among older employees is predominant due to the youth-centredness of societies and ageing workforces (Bayl-Smith & Griffin, 2017; Fasbender & Wang, 2017). Common stereotypes depicting older employees as less motivated, less competent, and more resistant to change are persistent in several countries (North & Fiske, 2015) regardless of the empirical counter-evidence (Ng & Feldman, 2012).

A social-cognitive perspective implies that experiencing age discrimination at work can impair employees' occupational self-efficacy because the negative reaction of others directly provides negative information concerning how colleagues judge one's work-related capabilities and the broader message, which devaluates the social group to which the targeted employee belongs. As age discrimination attacks an individual as a member of a social group (i.e., colleagues belonging to the same age group) and an individual's self-image is



intertwined with their social identity (Tajfel, 1974; Turner & Reynolds, 2001), it follows that age discrimination constitutes a threat to an employee's self-image. When an older employee realizes that they belong to a devalued group, this can trigger negative ideas regarding how out-group members (i.e., younger colleagues) think about their group, which can in turn negatively affect judgements of one's own skills (Levy, 2003, 2009).

Empirical studies provide initial support for our conceptual arguments. First, research on other forms of diversity has demonstrated the negative effect of experiences of discrimination on self-efficacy. Specifically, meta-analytical evidence concerning ethnic diversity shows that perceived ethnic discrimination (i.e., detrimental treatment due to one's ethnicity) is negatively related to self-efficacy in non-work settings (de Freitas et al., 2018). With regard to gender, evidence suggests that modern sexism (as the covert form of sex discrimination) is linked to lower career decision self-efficacy (Shin & Lee, 2018). Second, scholars have also confirmed the existence of a link between vicarious experiences and self-efficacy. Chiesa et al. (2016) found in a cross-sectional study that organizational age stereotypes – simplified, often erroneous, undifferentiated portrayals of an age group held by an organization that are unrepresentative of reality – were negatively associated with occupational self-efficacy on the part of older employees. In light of the outlined theoretical considerations and preliminary empirical evidence, we formulate the following hypothesis:

*Hypothesis 1:* Older employees' perceived age discrimination is negatively related to their occupational self-efficacy.

### **Occupational Self-Efficacy and Knowledge Sharing**

Based on the socio-cognitive perspective (Bandura, 1986, 1991), we argue that older employees' decision to share or not to share knowledge is determined by their occupational self-efficacy. This is because occupational self-efficacy reflects older employees' belief that they are capable at work. For older employees with higher occupational self-efficacy, there is

little harm in sharing knowledge with younger colleagues, as older employees are likely to feel competent and not be afraid of losing face should the shared knowledge be incorrect or irrelevant (Gerpott, Fasbender, et al., 2020). Furthermore, older employees with higher occupational self-efficacy may not be concerned with providing superfluous information when sharing their unique knowledge but may instead be aware that their capabilities will continue to make them valuable organizational members (Joshi et al., 2010). In contrast, older employees with lower occupational self-efficacy will likely consider knowledge sharing with younger colleagues as a risk that may result in them being viewed as incompetent organizational members (Gerpott & Fasbender, 2020) or being replaced by younger workers (Joshi et al., 2010). For such older employees, sharing less knowledge with their younger colleagues is a logical step intended to protect their self-image (Volpone & Avery, 2013).

In line with our theorizing, empirical evidence shows that employees are generally more likely to share knowledge with others if they are confident about their capabilities in their roles (Cabrera et al., 2006). In contrast, employees are less likely to share knowledge with others should they doubt their efforts and ability to accomplish tasks at work (Lekhawipat et al., 2018). Based on the theoretical arguments and the empirical evidence, it is plausible to assume that older employees' occupational self-efficacy is positively related to their knowledge sharing with younger colleagues. Thus, we formulate our second hypothesis as follows:

*Hypothesis 2:* Older employees' occupational self-efficacy is positively related to their knowledge sharing towards younger colleagues.

### **Perceived Age Discrimination and its Indirect Relations with Knowledge Sharing**

To integrate our arguments, we predict that older employees' perceived age discrimination is negatively linked to their knowledge sharing with younger colleagues through lower occupational self-efficacy. First, perceived age discrimination signals to older

employees that there are different groups and that their group (i.e., older employees) receives less favourable treatment than others (i.e., younger employees). As such, age discrimination represents a devaluated social identity, which goes hand in hand with a more negative view of oneself. As a consequence, older employees may doubt their capability to perform well at work (i.e., reduced occupational self-efficacy). Second, older employees' decreased occupational self-efficacy may hinder knowledge sharing with younger colleagues, as knowledge sharing is an encounter with an out-group that can make employees' (believed) capabilities visible to others. Occupational self-efficacy reflects the self-assessed skills and capabilities that older employees can potentially share with younger colleagues. A decreased belief in their skills and capabilities limits older employees' perception of the amount of sharable knowledge they possess. Taken together, we expect that older employees' perceived age discrimination is indirectly related to their knowledge sharing with younger colleagues through lower occupational self-efficacy. In summary, we formulate the following hypothesis:

*Hypothesis 3:* There is an indirect relation between older employees' perceived age discrimination and their knowledge sharing with younger colleagues through occupational self-efficacy.

## **Method**

### ***Sample and Procedure***

During November 2018 and February 2019, we collected data from older employees and their younger colleagues living and working in Germany. Participants were selected according to their age and being peers (i.e., colleagues without disciplinary responsibility for each other). Each dyad was composed of an older ( $\geq 50$  years) and a younger colleague ( $\leq 35$  years). We carefully chose the age cut-off values based on previous research on age in the workplace (e.g., McCarthy et al., 2014), age discrimination (e.g., Zaniboni et al., 2019), and

knowledge transfer between older and younger colleagues (e.g., Burmeister, Fasbender, et al., 2018). In particular, we chose 50 years as the older age cut-off value because previous research has revealed that the majority of organizations tend to view workers as “older” from the age of 50 (McCarthy et al., 2014), and age discrimination can become an issue at this age (e.g., Zaniboni et al., 2019). Furthermore, we choose 35 years as the younger age cut-off value based on previous research on knowledge transfer between younger and older colleagues (e.g., Burmeister, Fasbender, et al., 2018). In addition, having a comparatively high age difference between interaction partners (e.g., 15 years) is expected to make the behaviour towards the interaction partner more salient (Burmeister, Fasbender, et al., 2018; see also Kunze & Menges, 2017).

We invited people belonging to both age groups to participate in the study and asked participants to nominate a colleague from the other age group. This means that a younger employee could suggest an older colleague to participate in the research and vice versa. Specifically, participants were instructed to ask a colleague with whom they regularly work with (i.e., at least once a month) and who would be able to perform a brief evaluation of their work behaviour. We framed work behaviour as behaviour related to knowledge sharing and support at work. To recruit a heterogeneous sample allowing for generalization across different job and industries, we instructed students (as part of a class on knowledge transfer) to contact organizations for which knowledge sharing is of high importance with a short advertisement text for the study. In addition, we invited university employees by sending an email to them that included the advertisement text. Interested employees and their colleagues received a personalized link to the online survey (the approximate length of which was 10 minutes) via email. Participants were asked to individually complete the survey. We used participant codes to match the responses from older employees and their younger colleagues. Our data collection strategy resulted in 265 completed surveys, of which 15 were filled in by

only one dyadic member. We removed the incomplete data, resulting in 125 completed dyads. Of these, 25 dyads were excluded because either the younger colleague, the older colleague, or both colleagues did not satisfy the age criteria. Thus, the final sample consisted of 100 dyads ( $N = 200$  employees).<sup>1</sup>

Participants worked in a range of different industries; the most represented industries were health care (26%), consumer goods (16%), education (15%), and the public sector (11%). Older employees' age ranged from 50 to 66 years ( $M = 55.28$ ,  $SD = 3.83$ ); 64% were female, and 37% had graduated from university. Their younger colleagues' age ranged from 20 to 35 years ( $M = 28.71$ ,  $SD = 3.93$ ); 61% were female, and 56% had graduated from university.<sup>2</sup> On average, older colleagues worked for 37.22 hours ( $SD = 9.60$ ) and younger colleagues for 36.33 hours ( $SD = 7.91$ ).

### **Measures**

Older employees filled in the questions on perceived age discrimination and occupational self-efficacy, whereas their younger colleagues reported on older employees' knowledge sharing towards them. We applied the German version of the scales if available or otherwise used a translation/back-translation process to translate the scales from English to German.

**Perceived age discrimination (self-rated).** Older employees' perceived age discrimination was measured with three items, of which two were based on Redman and Snape (2006) and one was taken from Macdonald and Levy (2016). Participants indicated the extent to which they personally experienced less favourable treatment at work due to their age using a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

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<sup>1</sup> We calculated a robustness check with a minimum age difference of 15 years instead of keeping the prescribed age cut-off values (resulting in  $N = 118$  dyads). Results of the robustness check revealed similar findings.

<sup>2</sup> The difference between older and younger employees' education was statistically significant ( $\chi^2(1) = 22.15$ ,  $p < .001$ ). However, it is not unusual that younger employees had more frequently graduated from university than older employees because there is an increasing trend towards higher education in Germany, as evidenced by the constant rise in the number of students over the last five decades (Federal Statistics Office of Germany, 2020).

The two items were “The people I work with treat me less favourably because of my age” and “My immediate superior treats me less favourably than other workers because of my age”. Additionally, we captured the frequency of perceived age discrimination by asking “How often have you been treated poorly or been negatively discriminated at work because of your age?”, with respondents answering on a scale ranging from 1 (*never*) to 5 (*daily*). The compound scale showed good reliability ( $\alpha = .84$ ).

**Occupational self-efficacy (self-rated).** Occupational self-efficacy was measured using the six-item version of the Occupational Self-Efficacy Scale (Rigotti et al., 2008). Participants reported the extent to which they felt confident about their capability to deal with any kind of problems arising at work on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). An example item was “When I am confronted with a problem in my job, I can usually find several solutions” ( $\alpha = .88$ ).

**Knowledge sharing with younger colleagues (other-rated).** Knowledge sharing with younger colleagues was measured using the three-item scale developed by Wilkesmann et al. (2009), which we adapted to the perspective of younger colleagues. Participants indicated the extent to which their older colleague shared relevant information with them using a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). An example item was “My colleague showed me special procedures so that I can learn them” ( $\alpha = .71$ ).

**Control variables.** First, participants’ age was included as a control variable in the analyses to exclude the possibility that the investigated relations are due to differences in participants’ age rather than due to their perceived age discrimination (Macdonald & Levy, 2016; Redman & Snape, 2006). With regard to our outcome variable, age can shape participants’ knowledge sharing because organizational norms related to age may determine the roles that employees adopt (i.e., older employees are expected to share more knowledge than their younger counterparts; Burmeister, Fasbender, et al., 2018; Lawrence, 1988). In addition,

age has been linked to higher levels of generativity motive, which refers to the need to share knowledge with younger generations (Fasbender et al., 2016; Kooij et al., 2011). Second, gender was included as control variable (binary coded with 0 = *male* and 1 = *female*), as previous research has shown that there are gender differences in the experience of age discrimination (e.g., Ayalon, 2014). In addition, women may respond differently to perceived age discrimination than men because of the potential double jeopardy for older women at work (Taylor et al., 2013). Moreover, we included education (binary coded with 0 = *no university degree* and 1 = *university degree*) as a control variable because older employees holding a university degree are likely to possess more knowledge that they can share with their younger colleagues (Kuyken et al., 2009). Similarly, we controlled for younger colleagues' education (i.e., binary coded with 0 = *no university degree* and 1 = *university degree*) because older employees may assume their younger colleagues who hold a university degree already know what they would share and therefore share less knowledge with them.

### ***Analytical Strategy***

We conducted a path analysis in Mplus 8.3 to test the hypothesized relations between perceived age discrimination, occupational self-efficacy, and knowledge sharing with younger colleagues because the sample size was relatively small for the number of parameters to be estimated (less than 5:1 ratio), which may lead to an instability of the factor solution and difficulties in detecting the indirect effect.<sup>3</sup> We used maximum likelihood (ML) estimation with bootstrapping (10,000 draws) to account for deviations from normality when estimating the indirect effects (Preacher, 2015). We tested our conceptual model by including all hypothesized effects simultaneously in the model while controlling for the direct effect of perceived age discrimination on knowledge sharing with younger colleagues, as not including

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<sup>3</sup> We conducted an additional analysis using structural equation modelling (with the six items of occupational self-efficacy being parcelled to a more parsimonious two-per-factor solution), which resulted in a comparable pattern of direct and indirect effects.

this direct effect may have inflated the estimated indirect effect (Preacher & Hayes, 2008). Furthermore, we regressed the control variables (i.e., age, gender, education, and younger colleagues' education) on both the mediator and outcome variables.<sup>4</sup>

## Results

The means, standard deviations, reliabilities, and correlations of the variables used in Study 1 are shown in Table 1.

### *Preliminary Analyses*

A series of confirmatory factor analyses served to investigate the discriminant validity of the three core measures used in this study. The intended three-factor structure yielded a good model fit ( $\chi^2 (74) = 108.977, p = .005, CFI = .936, RMSEA = .069, SRMR = .085$ ) and was superior to alternative models, such as the two-factor solution with predictor and mediator (perceived age discrimination and occupational self-efficacy) loading on one common factor ( $\chi^2 (76) = 254.538, p < .001, CFI = .674, RMSEA = .153, SRMR = .128$ ) and the one-factor solution neglecting the theoretical structure with all items loading on the same factor ( $\chi^2 (77) = 311.018, p < .001, CFI = .572, RMSEA = .174, SRMR = .142$ ). Hence, the discriminant validity of the three measures was supported.

### *Hypotheses Testing*

Overall, our hypothesized model was saturated and therefore showed a perfect model fit.<sup>5</sup> Table 2 presents the direct and indirect effects of older employees' perceived age discrimination on their knowledge sharing with younger colleagues through occupational self-efficacy. Perceived age discrimination was negatively related to occupational self-efficacy ( $\gamma =$

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<sup>4</sup> To test whether the relations are robust, we estimated the final model with and without control variables (Bernierth & Aguinis, 2016). Results showed that the estimated direct and indirect effects remained stable and significant in the hypothesized direction even if we did not include control variables. Results can be provided by the first author upon request.

<sup>5</sup> If we free parameters by not testing the direct effect of perceived age discrimination on knowledge sharing with younger colleagues (i.e.,  $df = 1$ ), the model fit is strong ( $\chi^2 (1) = 0.002, p = .966, CFI = 1.000, RMSEA = .000, SRMR = .001$ ), and the pattern of results remains the same.



-.262,  $SE = .105$ ,  $p = .012$ ), supporting Hypothesis 1. In turn, we found a positive relation between occupational self-efficacy and knowledge sharing with younger colleagues ( $\gamma = .289$ ,  $SE = .105$ ,  $p = .006$ ), supporting Hypothesis 2. Furthermore, we found a negative indirect effect of older employees' perceived age discrimination on their knowledge sharing with younger colleagues via occupational self-efficacy (*indirect effect* =  $-.076$ , 95% CI =  $[-.197, -.013]$ ), supporting Hypothesis 3.

## **Discussion**

The results of Study 1 demonstrate that perceived age discrimination can indeed harm older employees' knowledge sharing with younger colleagues through lower occupational self-efficacy. These findings provide support for our proposed social-cognitive internalization model in which older employees with a threatened social identity (i.e., perceived discrimination of the group of older employees) experience a decline in their belief in their capabilities. This results in less knowledge sharing with younger colleagues as a withdrawal behaviour towards the out-group (Volpone & Avery, 2013).

### **Study 2: Age-Specific HR Practices as Boundary Conditions**

In Study 2, we provide further support to our social-cognitive internalization model by testing the direct and indirect relations between older employees' perceived age discrimination and their knowledge sharing with younger colleagues through occupational self-efficacy (Hypotheses 1–3). Moreover, we extend our findings from Study 1 by theorizing age-specific HR practices as relevant boundary conditions of the proposed social-cognitive mechanism. Our concentration on age-specific HR practices as institutionalized activities targeted at older employees logically follows from our focus on older employees and their cognitive processes for at least two reasons: First, because of the target group of age-specific HR practices (i.e., older employees), they are conceptually much closer to our variables of interest than other age-oriented HR practices, such as diversity-related HR practices (i.e.,

general HR practices that aim to benefit all minorities/disadvantaged groups within an organization) or age-inclusive HR practices (i.e., HR practices that are suitable for all age groups within an organization). Second, recent theoretical advancements (Van Dalen et al., 2015) allow for a more nuanced view on age-specific HR practices, namely the division into age-specific HR development practices (i.e., HR activities designed to encourage older employees' career development and lifelong learning) and age-specific HR accommodation practices (i.e., HR activities designed to compensate for potential age-related losses in physical or cognitive ability).<sup>6</sup> This division allows us to determine *where* (i.e., at which stage) in the proposed mediation model these HR practices unfold their effects on older employees' occupational self-efficacy and knowledge sharing with younger colleagues. HR development practices seem particularly suited to increase older employees' cognitive capacities and know-how, whereas HR accommodation practices seek to offer the time and energy older employees require to fully utilize their existing level of cognitive capacity. Such a differentiated line of argumentation addresses the concern that summarizing all age-oriented HR practices under the umbrella of age-inclusive HR practices does not adequately match the level of theorizing in age-specific conceptual models (e.g., Kooij et al., 2010; Van Dalen et al., 2015).

### **Age-Specific HR Development Practices**

Age-specific HR development practices represent optimization measures that facilitate older employees' productive and cognitive capacity (Van Dalen et al., 2015). They include, for example, the provision of training programs, the promotion of internal job mobility, offers for continuous career development, and opportunities for older employees to start a new career within the same organization (Boehm & Dwertmann, 2015; Van Dalen et

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<sup>6</sup> This theoretical framework also involves a third category of age-specific HR practices, namely activities related to offering exit options (i.e., early full or part-time retirement). However, since an absent employee cannot share any knowledge with colleagues, including this category in our study would be conceptually irrelevant.

al., 2015). We theorize that age-specific HR development practices moderate the relation between older employees' perceived age discrimination and their occupational self-efficacy. This is because HR development practices help older employees to gain a realistic and positive view of their skills and consequently make them less susceptible to negative experiences in their work environment, such as being discriminated against by others. Empirical evidence indeed shows that training can make members of a minority group more resistant to backlashes than untrained people, as their self-images are less vulnerable to setbacks (Yanar et al., 2009). Furthermore, older employees are likely to perceive mastery experiences (i.e., performance accomplishments) when engaging in development activities, which provide them with resources that increase their resistance against challenges (Maurer, 2001). Accordingly, we hypothesize as follows:

*Hypothesis 4:* Age-specific HR development practices moderate the relation between older employees' perceived age discrimination and their occupational self-efficacy such that the negative relation is weaker when HR development practices are higher (vs. lower).

### **Age-Specific HR Accommodation Practices**

Age-specific HR accommodation practices aim to compensate for potential age-related losses. This bundle of HR activities includes, for example, the reduction of working hours to offer more time for recovery, the use of ergonomic measures to reduce physical strain at work, a decrease in workload, or preventing older employees from working irregular shifts (Van Dalen et al., 2015). In other words, HR accommodation practices aim at creating a work environment in which older employees' productivity can be maintained by organizing their tasks and utilizing their cognitive capacities in an age-sensitive way.

Some of the main barriers to voluntary behaviours such as knowledge sharing are time constraints (Connelly et al., 2014) and feelings of stress (Eatough et al., 2011). Because HR accommodation practices compensate for age-related losses that would otherwise

increase older employees' time pressure and stress levels, we propose that age-specific HR accommodation practices should foster older employees' knowledge sharing with younger colleagues. In other words, because knowledge sharing is complex and time-consuming (Connelly et al., 2014; Spencer, 2008), the organizational circumstances need to be designed such that they reduce time- and resource-related challenges for older employees that could otherwise occur. HR accommodation practices help to achieve this goal and should thus provide older employees with sufficient energy to be able to engage in knowledge sharing. We argue that age-specific HR accommodation practices can amplify the positive relation between older employees' occupational self-efficacy and knowledge sharing with younger colleagues. This is because even should older employees possess higher occupational self-efficacy, they need resources in terms of time and energy to be able to transform this positive self-image into competency-related behaviour such as knowledge-sharing. Indeed, people consider their situational resources in addition to their general self-efficacy to determine whether they can successfully accomplish a specific activity, such as knowledge sharing (Endres et al., 2007). Furthermore, recovered employees engage in more proactive behaviours (Sonnentag, 2003), which comprise activities such as knowledge sharing (Chen et al., 2011). Since HR accommodation practices aim to provide older employees with sufficient resources by reducing their strain at work and increasing their recovery times, the positive link between occupational self-efficacy and knowledge sharing with younger colleagues should be strengthened when HR accommodation practices are in place. Stated formally, we propose the following hypothesis:

*Hypothesis 5:* Age-specific HR accommodation practices moderate the relation between older employees' occupational self-efficacy and their knowledge sharing with younger colleagues such that the positive relation is stronger when HR accommodation practices are higher (vs. lower).

## Method

### *Sample and Procedure*

During March and April 2019, we collected data from a sample of older employees in the United Kingdom via an established data collection company (Respondi). We chose this sampling strategy for two reasons: first, to gain a broader range of participants (i.e., from various organizations and industries; Landers & Behrend, 2015) and, second, to increase the probability that participants would reveal sensitive phenomena such as perceived age discrimination without their employing organization being involved (Griffin et al., 2016). We used structured online questionnaires across three waves with a time lag of one week in between each wave to collect the data. We chose one week as the time lag because we expect knowledge sharing with younger colleagues to be a behaviour that can vary from week to week. Furthermore, previous research has investigated different knowledge behaviours with similar time lags (e.g., Burmeister, Fasbender, et al., 2018; Gerpott et al., 2019; Jiang et al., 2019).

A total of 3,300 people who fulfilled the inclusion criteria, namely that they were 50 years or older, currently employed for at least 20 hours per week, and regularly have the opportunity to interact with and support their younger ( $\leq 35$  years) colleagues (i.e., at least once a week), were invited to participate in the study. At Time 1, 502 people participated in the study (response rate of 15.2%). To ensure that participants paid attention to the content of the questions, we implemented quality-check questions (e.g., “Please select ‘strongly disagree’ here if you pay attention”). Thirty of the participants were removed because they did not respond correctly to the quality-check questions, resulting in a sample size of 472 participants. Of the participants, 399 participants took part at Time 2 (dropout of 15.5%), and 363 participants also took part at Time 3 (dropout of 9.0%).<sup>7</sup> To reduce bias and maintain statistical

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<sup>7</sup> To account for possible selective dropout, participants in the final sample were compared to those who dropped out at Time 2 with respect to their age, gender, education, and weekly work hours. We found no significant differences.

power, we followed previous recommendations on dealing with missing data in longitudinal studies (i.e., Graham, 2009; Wang et al., 2017) and modelled missing values with full information maximum likelihood estimation of participants who did not take part at Time 2 and Time 3.<sup>8</sup> The final sample size is 472 participants.

Participants worked on average 38.39 hours per week ( $SD = 6.52$ ) in a broad array of industries; the most represented industries were the public sector (14%), health care (10%), education (10%), logistics and transport (9.7%), and retail (8.1%). The majority of participants worked in large organizations with at least 250 employees (55.7%), whereas 17.2% worked in medium-sized organizations with up to 250 employees, 18.4% were employed by small organizations with less than 50 employees, and 8.7% worked in micro organizations with less than 10 employees. Of the participants, 42.8% were female, and 38.1% held a university degree. Participants' age ranged from 50 to 71 years ( $M = 56.59$ ,  $SD = 4.65$ ).

### **Measures**

Following the recommendations on procedural steps to mitigate the concern of common method bias (i.e., Podsakoff et al., 2012), we chose to separate the measurement of variables according to their role of being a predictor or moderator (i.e., perceived age discrimination, HR development, and HR accommodation practices), mediator (i.e., occupational self-efficacy), or outcome variable (i.e., knowledge sharing with younger colleagues) in our model. We applied the English version of the scales used in Study 1.

**Perceived age discrimination.** We measured older employees' perceived age discrimination as in Study 1. The scale showed good reliability ( $\alpha = .84$ ).

**HR development practices.** HR development practices were measured using the four-item scale from Van Dalen et al. (2015). Participants indicated the extent to which their

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<sup>8</sup> We conducted a sensitivity analysis to investigate whether the results differ when modelling missing values ( $N = 472$ ) as compared to using listwise deletion ( $N = 363$ ). Results revealed that the estimated direct and indirect effects remained stable and significant in the hypothesized direction even if we used listwise deletion.

respective organization offers development opportunities to older employees on a five-point scale ranging from 1 (*not at all*) to 5 (*a great deal*). An example item was “Provide training programs for older employees” ( $\alpha = .91$ ).

**HR accommodation practices.** We assessed HR accommodation practices with five items from Van Dalen et al. (2015). Participants indicated the extent to which their organization accommodates to older employees’ needs on a five-point scale ranging from 1 (*not at all*) to 5 (*a great deal*). An example item was “Decrease workload for older employees” ( $\alpha = .82$ ).

**Occupational self-efficacy.** We measured occupational self-efficacy as in Study 1. The scale showed excellent reliability ( $\alpha = .91$ ).

**Knowledge sharing with younger colleagues.** Participants assessed their knowledge sharing with younger colleagues using the three items from Wilkesmann et al. (2009) employed in Study 1 using a five-point answering format ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). We adapted the items by adding the word *younger* [colleagues] to each item. An example item was “I show younger colleagues special procedures so that they can learn them” ( $\alpha = .93$ ).

**Control variables.** As in Study 1, we controlled for age, gender, and education. In addition, we controlled for older employees’ working hours per week because the more hours employees work per week, the less time and energy they have to transform their occupational self-efficacy into competency-related behaviours such as sharing knowledge with their younger colleagues (Endres et al., 2007; Gerpott & Fasbender, 2020). Furthermore, we included organization size (i.e., binary coded with 0 = *small and medium sized organizations* and 1 = *large organizations*) as a control variable because larger organizations tend to have more advanced age management systems in place that can help to reduce the experience of age discrimination and its detrimental downstream consequences (Stypinska & Turek, 2017).

### *Analytical Strategy*

We used structural equation modelling (SEM) in Mplus 8.3 to investigate the hypothesized relations between perceived age discrimination, occupational self-efficacy, HR development practices, HR accommodation practices, and knowledge sharing with younger colleagues. We applied robust maximum likelihood estimation (MLR) for two reasons: first, to account for deviations from normality and missing values (Yuan & Bentler, 2008) and, second, to compute interaction effects on the latent level (i.e., maximum likelihood estimation is not available). All variables and hypothesized effects were included simultaneously in the model.<sup>9</sup> To test the moderation effects of HR development practices and HR accommodation practices, the interaction terms between the mean centred scores of (a) perceived age discrimination and HR development practices and (b) occupational self-efficacy and HR accommodation practices were computed using the XWITH command in Mplus. Indirect effects were computed with the product of coefficients method (Preacher, 2015).

## **Results**

### *Preliminary Analyses*

The means, standard deviations, reliabilities, and correlations of the variables used in Study 2 are shown in Table 3. A series of confirmatory factor analyses served to investigate the discriminant validity of the five core measures used in this study. The intended five-factor structure yielded a strong model fit ( $\chi^2(179) = 461.344, p < .001, CFI = .950, RMSEA = .058, SRMR = .043$ ) and was superior to alternative models, such as the three-factor solution with variables measured at Time 1 (perceived age discrimination, HR development practices, and HR accommodation practices) loading on one common factor ( $\chi^2(186) = 1,783.347, p < .001, CFI = .716, RMSEA = .135, SRMR = .110$ ) and the one-factor solution neglecting the

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<sup>9</sup> As in Study 1, we estimated the final model with and without control variables. We found that the direct and indirect effects remained stable and significant in the hypothesized direction even if we did not control for age, gender, education, working hours, and organization size. Results can be obtained from the first author upon request.



theoretical structure with all items loading on the same factor ( $\chi^2 (189) = 4,047.911$   $p < .001$ ,  $CFI = .314$ ,  $RMSEA = .208$ ,  $SRMR = .194$ ). Hence, the discriminant validity of the present measures was supported.

### *Hypotheses Testing*

Hypotheses 1 to 3 addressed the direct and indirect relations between perceived age discrimination, occupational self-efficacy, and knowledge sharing with younger colleagues. As can be seen in Figure 2 and Table 4, perceived age discrimination had a negative effect on occupational self-efficacy ( $\gamma = -.129$ ,  $SE = .047$ ,  $p = .006$ ), supporting Hypothesis 1. In turn, occupational self-efficacy had a positive effect on knowledge sharing with younger colleagues ( $\gamma = .223$ ,  $SE = .093$ ,  $p = .017$ ), supporting Hypothesis 2. Furthermore, perceived age discrimination had a negative indirect effect on knowledge sharing with younger colleagues via occupational self-efficacy (*indirect effect* =  $-.029$ ,  $95\% CI = [-.073, -.002]$ ), supporting Hypothesis 3.

Hypothesis 4 addressed the moderating role of HR development practices. We tested whether HR development practices could buffer the negative relation between perceived age discrimination and occupational self-efficacy. The interaction effect was, however, not significant ( $\gamma = -.050$ ,  $SE = .042$ ,  $p = .239$ ). Therefore, Hypothesis 4 was not supported.

Hypothesis 5 addressed the moderating role of HR accommodation practices. We found that HR accommodation practices significantly moderated the positive relation between occupational self-efficacy and knowledge sharing with younger colleagues ( $\gamma = .280$ ,  $SE = .108$ ,  $p = .010$ ).<sup>10</sup> Results of a simple slope difference test suggest that the positive effect of occupational self-efficacy on knowledge sharing was stronger for participants with higher levels (+1SD) of HR accommodation practices (*simple slope* =  $.466$ ,  $SE = .123$ ,  $p <$

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<sup>10</sup> As a robustness check, we tested both HR practices as moderators of the relation between occupational self-efficacy and knowledge sharing with younger colleagues. We find that the results remain comparable. In particular, HR accommodation practices continue to be a significant moderator even if we control for HR development practices as an additional moderator.

.001) as compared to participants with lower levels ( $-1SD$ ) of HR accommodation practices (*simple slope* =  $-.020$ ,  $SE = .141$ ,  $p = .887$ , *slope difference* =  $.486$ ,  $SE = .188$ ,  $p = .010$ ). In addition, we plotted the band of significance for the simple slope of occupational self-efficacy on knowledge sharing with younger colleagues at the full observed centred range of HR accommodation practices [ $-.73$  to  $3.07$ ]. As can be seen in Figure 3, the relation between occupational self-efficacy and knowledge sharing is positive and significant for HR accommodation practices values ranging between  $-.12$  and  $3.07$ . The relation becomes nonsignificant for negative values of HR accommodation practices below  $-.12$ . These findings support Hypothesis 5.

### ***Post Hoc Analyses***

Although not explicitly hypothesized, we tested whether HR accommodation strategies moderated the indirect relation between perceived age discrimination and knowledge sharing with younger colleagues via occupational self-efficacy. As can be seen in Table 5, when HR accommodation practices were lower, the indirect effect of perceived age discrimination on knowledge sharing with younger colleagues via occupational self-efficacy was not significant (*indirect effect* =  $.003$ , 95% CI = [ $-.041$ ,  $.039$ ]). In contrast, when HR accommodation practices were higher, the indirect effect was significant (*indirect effect* =  $-.060$ , 95% CI = [ $-.126$ ,  $-.013$ ], *difference* =  $-.063$ , 95% CI = [ $-.139$ ,  $-.010$ ]). These findings mean that implementing HR accommodation can benefit people with higher levels of occupational self-efficacy but harm those with lower levels of occupational self-efficacy (i.e., those who perceive perceived age discrimination).

### **Discussion**

First, the results of Study 2 replicate those of Study 1. In line with the results of Study 1, we find that older employees' perceived age discrimination was related to lower levels of occupational self-efficacy, which in turn predicted their knowledge sharing with younger

colleagues. These findings provide further support for our proposed social-cognitive internalization model in which older employees who perceive age discrimination devalue their occupational self-efficacy and react by withdrawing from the out-group (i.e., lower knowledge sharing with younger colleagues).

Second, the results of Study 2 extend the findings of Study 1 by exploring the role of HR development and HR accommodation practices as relevant organizational context factors. We find that HR development practices were not able to buffer the negative effects of perceived age discrimination on occupational self-efficacy. While we could not find support for the hypothesized moderation effect, our findings suggest that HR development practices had a positive direct effect on older employees' occupational self-efficacy.

Furthermore, HR accommodation practices moderated the relation between older employees' occupational self-efficacy and knowledge sharing with younger colleagues. Specifically, HR accommodation practices strengthened the positive relation between older employees' occupational self-efficacy and their knowledge sharing with younger colleagues. These findings support our social-cognitive perspective, which emphasizes that individual and context factors must be considered in combination (Bandura, 1986, 1991). The bundle of HR activities that focus on adapting work to the needs of older employees can thus be understood as exerting their impact by changing the level of available energy (e.g., through an increase in the number of breaks or the reduction of shift work) that an older person has at work.

Finally, our post hoc analyses of the data revealed that HR accommodation practices also moderated the indirect relations between perceived age discrimination and knowledge sharing with younger colleagues through occupational self-efficacy. We find that HR accommodation practices strengthened the negative indirect effect of perceived age discrimination on knowledge sharing with younger colleagues via occupational self-efficacy,

thus having a detrimental effect on successful knowledge retention. These post hoc findings highlight the double-edged nature of HR accommodation practices in that such practices are beneficial for older employees with higher occupational self-efficacy (facilitated by HR development practices), as they can translate the additional time and resources provided to them into more knowledge sharing with younger colleagues. Older employees with lower occupational self-efficacy (harmed by age discrimination experiences), however, are less able to utilize the time and resources made available to them.

Together, our findings extend previous research on the different effects of HR development and HR accommodation practices (Van Dalen et al., 2015) by showing where (i.e., at which stage) in the social-cognitive internalization model each bundle of HR practices unfolds its effects. In addition, our findings reveal that HR accommodation practices interact with employees' occupational self-efficacy and thereby shape the relation between the predictor of occupational self-efficacy (i.e., perceived age discrimination) and its outcome (i.e., knowledge sharing with younger colleagues).

### **General Discussion**

Knowledge is essential for contemporary organizations, but ensuring that older employees share their unique knowledge with younger colleagues to prevent knowledge loss is challenging (Burmeister & Deller, 2016). Knowledge sharing does not occur automatically; rather, it is a deliberate prosocial act that involves a risk for the knowledge sharer, who may be criticized or taken advantage of as a result of sharing unique knowledge. In our social-cognitive internalization model, we proposed that older employees' perceived age discrimination results in less knowledge sharing with younger colleagues through lower occupational self-efficacy. We find support for this mediation model in a dyadic field study of younger and older colleagues (Study 1) and in a three-wave field study with older employees (Study 2). Furthermore, we explored in Study 2 how age-specific HR practices

can buffer the negative effects of perceived age discrimination on older employees' knowledge sharing through their occupational self-efficacy. We found that HR development practices could not reduce the negative consequences of perceived age discrimination, while HR accommodation practices strengthened the link between older employees' occupational self-efficacy and their knowledge sharing.

### **Theoretical Implications**

Our research offers at least three theoretical implications: First, we contribute to connecting the age discrimination and knowledge sharing literatures more closely, which offers new perspectives for both literature streams. That is, we inspire the age discrimination literature to “look beyond the victim” (in our case, the older employee) who may suffer from the negative consequences of perceived age discrimination. We emphasize that age discrimination has broader implications: on the one hand, younger employees receive less knowledge from their older colleagues and thus have fewer learning opportunities (Gerpott, Fasbender, et al., 2020), while, on the other hand, an organization encounters the potential risk of knowledge loss upon older employees' retirement (Burmeister & Deller, 2016; Harvey, 2012). Accordingly, the findings of this study indicate that there is a strong business case for minimizing age discrimination in contemporary knowledge-intensive organizations (Snape & Redman, 2003). Researchers who study the consequences of age discrimination should thus be aware that individual experiences such as age discrimination are often inextricably linked with one's social identity and in turn may influence seemingly unrelated other-oriented behaviours, such as knowledge sharing.

Second, our social-cognitive internalization framework emphasizes that a social experience at work (i.e., feeling discriminated because one belongs to the social group of older employees) can translate into a domain-specific cognitive self-representation (i.e., occupational self-efficacy), which can in turn manifest in reduced beneficial other-oriented

behaviour (i.e., knowledge sharing towards younger colleagues). In establishing this relation, our research ties in with existing discrimination research in at least three ways: First, we add to previous work that has demonstrated a negative link between ethnic or gender discrimination and general or career-related self-efficacy (de Freitas et al., 2018; Shin & Lee, 2018) as well as to conceptual work on discrimination in the job search context (Heslin et al., 2012). We extend this logic to the ageing at work domain, thereby showing that management scholars should also focus on contributing to this conversation. Second, we extend preliminary evidence concerning a negative link between organizational age stereotypes – as institutionalized manifestations of simplified, often erroneous, undifferentiated images of employees – and older employees' occupational self-efficacy (Chiesa et al., 2016). In doing so, we move theorizing from the organizational to the individual level and shed light on age discrimination as a more proximal behavioural experience that goes beyond general mental representations. Lastly, the results suggest that age discrimination can be a salient source of information concerning older employees' judgement of their own occupational capabilities (Bandura, 1977; Chiesa et al., 2016). Specifically, our findings are in line with the idea that being discriminated against is an experience that provides information on how others view oneself and the group one belongs to, which manifests in more negative self-judgements (Levy, 2003, 2009). Relatedly, we provide additional support for the notion that cognitive concepts of one's personal identity cannot be separated from one's social identity (Tajfel & Turner, 1986; Turner & Reynolds, 2001).

Third, we add to the emerging stream of research that investigates different bundles of age-specific HR practices (Kooij et al., 2010; Van Dalen et al., 2015) rather than overall age-oriented HR practices (Boehm et al., 2014; Boehm & Dwertmann, 2015; Burmeister, van der Heijden, et al., 2018). We found that HR development practices could not counteract the negative effects of age discrimination on older employees' occupational self-efficacy. Scholars

interested in older employees' experiences at work could interpret this finding as indicating that directly combating age discrimination is more promising in terms of reducing its negative cognitive consequences than attempting to minimize the harm it causes. However, as we discuss in more detail in the future research section, it is also possible that the conceptualization of HR development practices has not yet identified the core of what is essential to developing occupational self-efficacy against the backdrop of age discrimination experiences. The picture is clearer for HR accommodation practices, as our results indicate that such practices help older employees who possess higher occupational self-efficacy to share more knowledge with younger colleagues. However, this finding also indicates that organizations should be aware of an unexpected or unforeseen effect, namely the potentially double-edged nature of introducing HR accommodation practices. That is, the other side of the coin is that HR accommodation practices can prove harmful when older employees have lower occupational self-efficacy due to perceived age discrimination. In other words, because these practices strengthen the link between occupational self-efficacy and knowledge sharing, they paradoxically lead older employees who experience age discrimination to share even less knowledge with younger colleagues. This illustrates that theory should be more sensitive towards the potential side effects of HR practices that may be well-intended but ultimately prove harmful when the perceived age discrimination as a representation of informal rules does not reflect the formal appreciation of older employees.

### **Practical Implications**

In times of global population ageing, most organizations have realized the importance of knowledge retention from older employees to ensure continued business success (Boehm et al., 2014; Burmeister, Fasbender, et al., 2018; Burmeister, van der Heijden, et al., 2018). The present study offers relevant practical implications that support organizations in general

and HR managers in particular in their endeavour to sustain a competitive advantage by successfully managing ageing and age-diverse workforces.

First, organizations must address age discrimination using all possible means because our findings highlight that older employees' perceived age discrimination is not only an issue for older employees themselves but also manifests in reduced levels of other-oriented behaviour, such as knowledge sharing. A plethora of research has demonstrated that seeking information and knowledge from others can facilitate the effectiveness of employees (Chiaburu & Harrison, 2008; Lim et al., 2020; Noe et al., 2014). However, should older employees stop sharing information, younger employees' knowledge-seeking efforts will likely prove futile. In the worst case, this means that an entire organization risks substantial knowledge loss when older and retiring employees do not share their knowledge with the next generation. Organizations should thus make preventing age discrimination a priority.

While perceived age discrimination does not necessarily reflect the "accurate" level of age discrimination at work, it provides a useful indicator by which organizations can determine whether their policies are perceived as "age-proof" (Redman & Snape, 2006). Perceptions of age discrimination can stem from unequal treatment of employees with regard to, for example, personnel planning, performance appraisal, training and development, and reward systems. To avoid the emergence of such perceptions among older employees, it is important to communicate the existence of equal standards within the organization. In their day-to-day (downward) communication, leaders need to stress that, for example, the criteria used for performance evaluations or promotions are equal for all employees, regardless of their age. In addition, organizations need to address age-related stereotypes and prejudices as known causes of age discrimination (Dordoni & Argentero, 2015; Fasbender, 2017; Van Dalen et al., 2009, 2010). For example, facilitating high-quality interactions between younger and older employees can help buffer the negative effects of age-related stereotypes and prejudices on discriminatory



behaviour (Fasbender & Wang, 2017). Implementing diversity training that is active (rather than passive), guided by an instructor (rather than online or computer-based), and at least four hours in duration (distributed over multiple sessions) can effectively challenge stereotypes and prejudices as well as improve on-the-job behaviour (Kalinowski et al., 2013). Furthermore, organizations can nurture a pro-diversity climate that is characterized by respect and recognition towards employees of all ages as a normative framework through which employees as well as their supervisors can understand which behaviours are tolerated and rewarded (Boehm et al., 2014; Pugh et al., 2008; Wöhrmann et al., 2017). Lastly, organizations may provide a safe platform for employees to report potential unfair treatment and offer either monetary or non-monetary compensation.

Second, organizations aiming at retaining knowledge from older and retiring employees should also focus on other means of doing so (apart from minimizing age discrimination). In particular, our findings indicate that age-specific HR accommodation practices can strengthen the benefits of older employees' occupational self-efficacy in terms of their knowledge-sharing behaviour. Accordingly, organizations need to be aware that knowledge sharing takes time and energy, as well as a belief in one's own capabilities. HR managers should therefore design practices that accommodate the needs of their older employees, such as reducing working time, decreasing workloads, or using ergonomic measures (Van Dalen et al., 2015).

### **Limitations and Future Research**

We intended to compensate for the weaknesses of one study with the strengths of the other, yet both studies have limitations that may serve as inspiration for future research. Specifically, our research relied on a survey design, which opens up the possibility of common method bias. We attempted to reduce this risk by using multisource data in Study 1 and collecting data at different time points in Study 2 (Podsakoff et al., 2012). However, future

research may consider collecting more objective data, such as objective measures of knowledge sharing, to further reduce this concern. For example, researchers could videotape interactions between older and younger employees and objectively code the displayed knowledge-sharing statements (Gerpott, Lehmann-Willenbrock, et al., 2020).

Study 1 is based on cross-sectional data, which limits causal inferences. Furthermore, we asked older employees to nominate younger colleagues, who would then provide the perspective of knowledge recipients. This approach could have led to a selection bias, as employees may have nominated colleagues with whom they had shared knowledge. However, the range restriction of knowledge sharing resulting from a potential selection bias indicates a more conservative approach to hypotheses testing due to the reduced variance (Burmeister et al., 2020). Future research may randomly select age-diverse colleagues from the same work group to eliminate this concern.

Study 2 is based on a time-lagged design. While such a design is stronger than a cross-sectional design, as it provides more support for investigated relations (Wang et al., 2017), it does not allow for causal inferences to be drawn. Future research may aim for a (quasi-)experimental intervention study in the field that seeks to either inhibit the independent variable (i.e., age discrimination against older employees) or to enhance the moderators (i.e., age-specific HR practices) and investigate subsequent effects on older employees' occupational self-efficacy and knowledge sharing. Such a design would also allow for a more fine-grained temporal perspective on how long it takes for age-specific HR practices to unfold their protective effect against the negative consequences of age discrimination (Ancona et al., 2001). A field intervention with many follow-up measurement points (e.g., an experience sampling study; see Finkelstein et al., 2019 for an application in the ageing field) would make it possible to pinpoint the micro-dynamics of such an intervention to gain a deeper understanding of the temporal unfolding of the mechanisms proposed in this research.

Our research also leaves some issues unaddressed, which may inspire future research.

First, whereas in our research older employees who experienced age discrimination shared less knowledge, future theorizing could advance the concept of an opposing theoretical lens; that is, there might be circumstances under which a self-presentational view comes into place such that discriminated older employees engage in more knowledge sharing with younger colleague to recuperate a positive (self-)image by attempting to signal their capability and contributions to the organization (Sleeboos et al., 2006; Vogel & Mitchell, 2017). In other words, older employees may seek to maintain their self-image by refuting negative statements concerning them through sharing knowledge as a symbolic affirmation of their competence (Pennington et al., 2016). In line with this notion, a recent study found that the daily experience of negative meta-stereotypes, regardless of the age of the responder, was related to challenge reactions (Finkelstein et al., 2019). These findings can be interpreted in the context of the broader discrimination literature (Dhanani et al., 2018), which has presented ambiguous evidence concerning the link between discrimination and prosocial behaviour at work in that this relation is often negative (i.e., indicating a devaluation threat perspective) but sometimes also positive (i.e., offering support for a self-presentational view).

Second, we can imagine at least two avenues through which future studies could incorporate the perspective of younger employees in more detail. To begin with, it may be interesting to study the application of older employees' knowledge by their younger counterparts (i.e., knowledge receiving). Whereas we asked younger employees in Study 1 to rate their older colleagues' knowledge sharing, we did not ask them whether they also make use of this knowledge (i.e., whether they actively apply the knowledge they receive from their older counterparts to problems at hand). As a moderator of this link, relational characteristics such as mutual trust between the sender (i.e., the older employee) and the receiver (i.e., the younger employee) likely play an important role (Burmeister, Fasbender, et al., 2018), as one is more likely to use knowledge that comes from a trustworthy source. Furthermore, we would consider it a worthwhile endeavour to investigate how younger employees can encourage their

experienced colleagues to share their knowledge despite potential experiences of age discrimination. To help remedy the reality that many older employees experience age discrimination, research should also study concrete behaviours that younger employees can exhibit to make their older counterparts feel appreciated and thus lead them to experience higher occupational self-efficacy and share more knowledge. One promising candidate in this regard is respectful inquiry (Van Quaquebeke & Felps, 2018), which is the behavioural combination of asking open questions and listening attentively. This communication style has been linked to feelings of competence and relatedness, which suggests that it may promote older employees' knowledge sharing.

Finally, we drew from research (Van Dalen et al., 2015) that has added a nuance to the age-oriented HR literature by differentiating age-specific HR activities that relate to development and accommodation. Van Dalen et al. (2015) used this differentiation to discover organizational antecedents of different HR practices in a sample of 3,638 organizations in six European countries and reported that they had no difficulties in bundling the HR activities into these categories. Nevertheless, scholars may critically reconsider the bundling choices of Van Dalen et al. (2015) by either (a) adopting a more fine-grained perspective or (b) attempting to identify overarching common elements of age-specific HR practices. First, it could be interesting to investigate whether certain HR practices within these bundles are more important than others in predicting older employees' development and usage of their cognitive capacities or whether some age-specific HR practises are not yet included in these bundles. For example, in the broader diversity literature, Jayne and Dipboye (2004) identified a cluster of HR activities targeted at changing the workforce composition, which included HR instruments related to recruiting (e.g., neutral job advertisements, advertisements targeting specific minority groups, and the implementation of diverse recruiting teams), as well as a cluster of activities relating to communication endeavours (e.g., positive stories about the achievements of ageing workers or senior management speeches). Accordingly, future research

could extend our model by incorporating an even wider perspective on bundles of age-specific HR practices (see also Boehm et al., 2014). Second, another opportunity is to adopt a more global perspective on different bundles of HR practice to incorporate the view that they need to be aligned to be “internally consistent and reinforcing to achieve some overarching results” (Lepak et al., 2006, p. 221). In other words, while our research does not capture whether the different bundles of HR practices are aligned and follow an overarching strategy, it might be this integrated perspective that is crucial to sustainably reducing age discrimination in organizations.

On a cautionary note, however, it is conceivable that HR practices that only focus on older workers (rather than all employees) may penalize older workers because these age-specific HR practices could indicate that older workers have a deficit that needs to be corrected by the provision of development or accommodation practices (Boehm & Dwertmann, 2015). Future research may therefore investigate the potential harm of *age-specific*, as opposed to *age-inclusive*, HR practices. In that regard, it is worth noting that we measured the availability of age-specific HR practices, not the actual use of such practices. It is possible that some organizations do not “walk the talk”, meaning that the management of these organizations may not ensure that these practices are actually used. In other words, organizations can be prone to what Hoque and Noon (2004) label “empty shell” formal practices that are put into place to protect companies from litigation but that are not lived in daily life by organizational members (Riach, 2009). To conclude, investigating both the availability and the use of different types of bundles of HR practices represents a promising avenue to further decipher how institutionalized practices help to create inclusive organizations.

### **Conclusion**

Knowledge sharing from older employees with younger employees is essential and can be a critical source of success for organizations. We developed a social-cognitive internalization framework to position older employees’ perceived age discrimination as an

antecedent of their knowledge sharing with younger colleagues. Additionally, we explored organizational boundary conditions (i.e., age-specific HR practices) as buffers to the negative effects of perceived age discrimination. We hope that our work will inspire scholars and practitioners to build on these findings and further advance our understanding of the processes and protecting factors that can help to combat the negative consequences of age discrimination in contemporary organizations. After all, as our findings indicate, there is more than meets the eye – the negative consequences of age discrimination may ultimately impair a much larger group than just the discriminated group of older employees.

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Table 1

*Means, Standard Deviations, Reliabilities, and Correlations of Variables in Study 1*

Variable	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.
1. Age	55.28	3.83	-						
2. Gender	0.64	0.48	-.04	-					
3. Education	0.37	0.49	.10	-.12	-				
4. Younger colleagues' education	0.56	0.50	-.06	.01	.47**	-			
5. Perceived age discrimination	1.31	0.61	.18	.18	.12	.03	(.84) *		
6. Occupational self-efficacy	4.09	0.61	.19	-.16	.09	.03	-.20*	(.88)	
7. Knowledge sharing with younger colleague	4.02	0.75	.06	.01	-.03	-.03	-.04	.23*	(.71)

*Note.*  $N = 100$ . Cronbach's alphas are in brackets in the diagonal.

\* $p < .05$ , \*\* $p < .01$ .

Table 2

*Results of Path Analysis in Study 1*

<b>Direct effects</b>	Occupational self-efficacy			
	<i>Coefficient</i>	<i>SE</i>	<i>p-value</i>	<i>beta</i>
Age	<b>.036</b>	.013	.007	.223
Gender	-.131	.117	.263	-.104
Education	.091	.157	.579	.073
Younger colleagues' education	.015	.150	.921	.012
Perceived age discrimination	<b>-.262</b>	.105	.012	-.231
<b>Direct effects</b>	Knowledge sharing with younger colleagues			
	<i>Coefficient</i>	<i>SE</i>	<i>p-value</i>	<i>beta</i>
Age	.004	.021	.833	.022
Gender	.059	.152	.696	.038
Education	-.074	.197	.707	-.048
Younger colleagues' education	-.013	.185	.944	-.009
Occupational self-efficacy	<b>.289</b>	.105	.006	.236
Perceived age discrimination	.006	.176	.972	.004
<b>Indirect effects</b>	<i>Coefficient</i>	<i>SE</i>	<i>CI LL</i>	<i>CI UL</i>
Perceived age discrimination via Occupational self-efficacy	<b>-.076</b>	.047	-.197	-.013

*Note.*  $N = 100$ . Direct and indirect effects of perceived age discrimination on knowledge sharing with younger colleagues via occupational self-efficacy with bootstrapped confidence intervals for indirect effects. *SE* = standard error. *Beta* = standardized coefficient. *CI LL* = lower level of 95% confidence interval, *CI UL* = upper level of 95% confidence interval. Significant coefficients are highlighted in bold.

Table 3

*Means, Standard Deviations, Reliabilities, and Correlations of Variables in Study 2*

Variable	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Time 1 variables												
1. Age	56.59	4.65	-									
2. Gender	0.43	0.50	-.12**	-								
3. Education	0.38	0.47	-.01	-.02	-							
4. Working hours per week	38.39	6.62	.03	-.24**	.02	-						
5. Organization size	0.56	0.50	-.002	-.01	-.13**	-.07	-					
6. Perceived age discrimination	1.78	0.90	-.06	-.05	.05	.12**	.08	(.84)				
7. HR development practices	2.23	1.15	-.02	-.07	.04	.05	.06	-.24**	(.91)			
8. HR accommodation practices	1.73	0.82	-.04	-.01	.06	-.03	.04	-.01	.43**	(.82)		
Time 2 variable												
9. Occupational self-efficacy	4.22	0.58	.01	-.11*	.05	.07	-.07	-.17**	.23**	.10*	(.91)	
Time 3 variable												
10. Knowledge sharing with younger colleague	3.67	0.93	.02	.02	.06	.06	-.01	-.13*	-.18**	.17**	.20**	(.93)

*Note.*  $N = 472$  at Time 1,  $N = 399$  at Time 2,  $N = 363$  at Time 3. Cronbach's alphas are in brackets in the diagonal.

\* $p < .05$ , \*\* $p < .01$ .

Table 4

*Results of Structural Equation Modelling in Study 2*

Occupational self-efficacy			
<b>Direct effects</b>	<i>Coefficient</i>	<i>SE</i>	<i>p-value</i>
Age	-.001	.005	.826
Gender	-.110	.069	.110
Education	-.056	.069	.419
Working hours per week	.006	.005	.249
Organization size	-.079	.070	.259
Perceived age discrimination (A)	<b>-.129</b>	.047	.006
HR development practices (B)	<b>-.103</b>	.032	.001
Interaction A x B	-.050	.042	.239
Knowledge sharing with younger colleagues			
<b>Direct effects</b>	<i>Coefficient</i>	<i>SE</i>	<i>p-value</i>
Age	.013	.010	.166
Gender	.154	.094	.103
Education	.146	.095	.126
Working hours per week	.010	.008	.212
Organization size	.066	.099	.508
Perceived age discrimination	<b>-.171</b>	.074	.020
HR development practices	.017	.054	.754
Occupational self-efficacy (C)	<b>.223</b>	.093	.017
HR accommodation practices (D)	.084	.115	.467
Interaction C x D	<b>.280</b>	.108	.010
<b>Indirect effect</b>	<i>Coefficient</i>	<i>CI LL</i>	<i>CI UL</i>
Perceived age discrimination via Occupational self-efficacy	<b>-.029</b>	-.073	-.002

*Note.*  $N = 472$ . Direct and indirect effects of perceived age discrimination on knowledge sharing with younger colleagues via occupational self-efficacy with bias-corrected confidence intervals for indirect effects. *SE* = standard error. *CI LL* = lower level of 95% confidence interval, *CI UL* = upper level of 95% confidence interval. Significant coefficients are highlighted in bold.

Table 5

*Conditional Indirect Effects of Perceived Age Discrimination and HR Development Practices on Knowledge Sharing with Younger Colleagues via Occupational Self-Efficacy*

	Knowledge Sharing with Younger Colleagues		
	<i>Coefficient</i>	<i>CI LL</i>	<i>CI UL</i>
Perceived age discrimination via Occupational self-efficacy at			
Higher HR accommodation practices (A)	<b>-.060</b>	-.126	-.013
Lower HR accommodation practices (B)	.003	-.041	.039
Difference of higher (A) and lower (B)	<b>-.063</b>	-.139	-.010

*Note.*  $N = 472$ . Conditional indirect effects of perceived age discrimination on knowledge sharing with younger colleagues via occupational self-efficacy, *CI LL* = lower level of bias-corrected 95% confidence interval, *CI UL* = upper level of bias-corrected 95% confidence interval. Significant coefficients are highlighted in bold.



Figure 1

*Conceptual Model: Understanding When and Why Older Employees Share or Not Share*

*Knowledge with their Younger Colleagues*

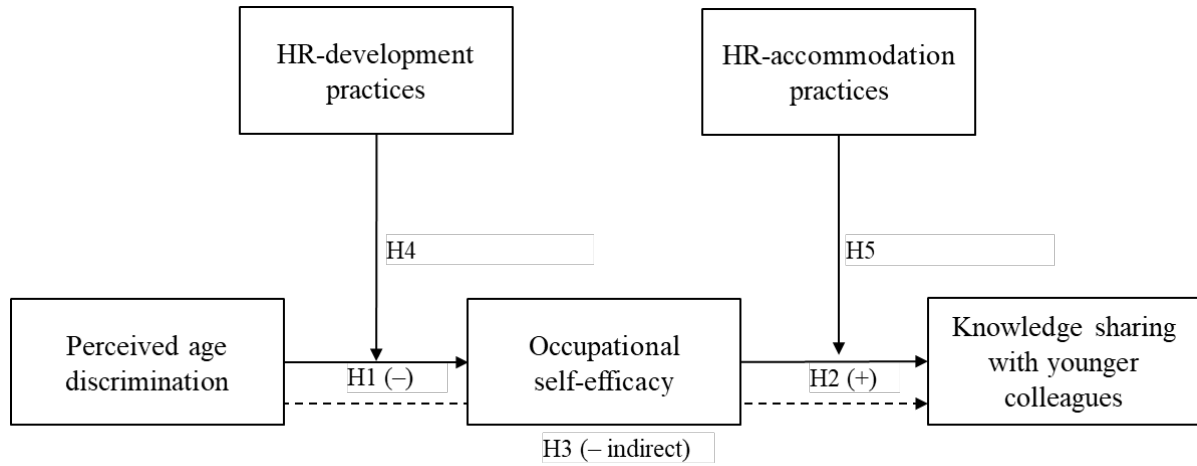


Figure 2

Results of Structural Equation Modelling in Study 2 ( $N = 472$ )

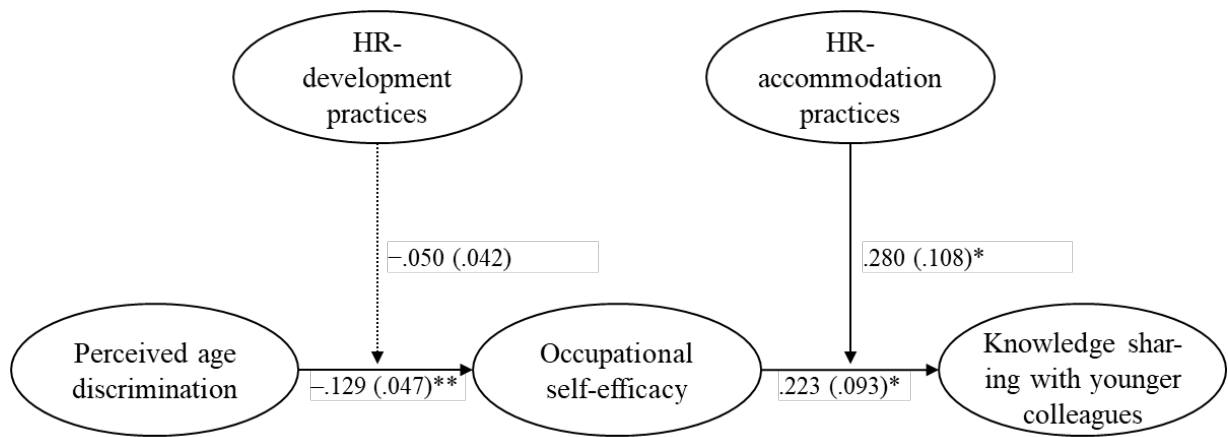
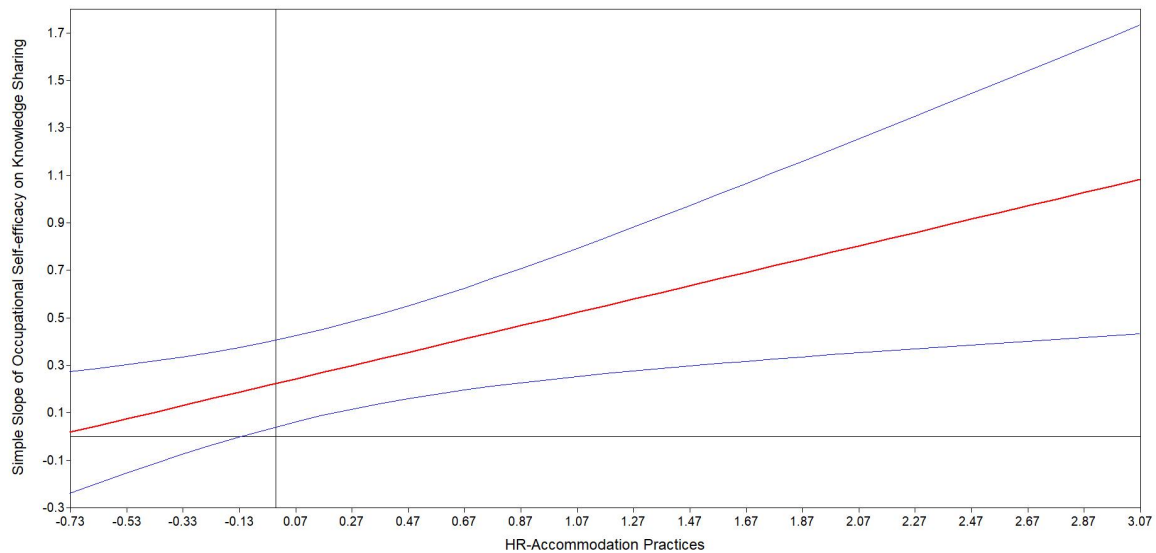


Figure 3

*Regions of Significance: HR Accommodation Practices Moderate the Relation between Older Employees' Occupational Self-efficacy and Knowledge Sharing with Younger Colleagues*



*Note.* The vertical line indicates the mean of HR accommodation practices. The horizontal lines indicate the simple slope of occupational self-efficacy on knowledge sharing (red) and its lower and upper 95% confidence interval (blue). The simple slope is positive and significant for HR accommodation practices values ranging between  $-0.12$  and  $3.07$  and becomes non-significant for negative values of HR accommodation practices below  $-0.12$ .