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Ulrike Fasbender & Lisbeth Drury

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One plus one equals one: age-diverse friendship and its complex relation to employees' job satisfaction and turnover intentions

Ulrike Fasbender ^a and Lisbeth Drury^b

^aDepartment of Business and Organizational Psychology, University of Hohenheim, Stuttgart, Germany; ^bBirkbeck, University of London, London, UK

ABSTRACT

This research investigates age-diverse friendship and its complex relation to job satisfaction and turnover intentions. Based on self-expansion theory, we argue that age-diverse friendship can lead younger and older employees to perceive oneness (a sense of merged identity) with a colleague from the respective other age-group and that this perceived oneness has consequences. On the positive side, we hypothesize perceived oneness to facilitate motivation to cooperate, which should increase job satisfaction and decrease turnover intentions. On the negative side, we hypothesize perceived oneness to provoke interrole conflict, which should decrease job satisfaction and increase turnover intentions. We found support for our hypotheses in a two-wave dyadic study consisting of 93 German age-diverse employee dyads ($N = 186$ individuals). Results showed that perceived oneness resulting from age-diverse friendship was related to motivation to cooperate (positive path) and interrole conflict (negative path). In turn, interrole conflict was linked to lower job satisfaction and higher turnover intentions. Motivation to cooperate was however not significantly linked to job satisfaction and turnover intentions. By considering age-diverse friendships, this research provides an age-specific lens on the beneficial and detrimental effects of workplace friendship and contributes to the literatures on age diversity, cross-group friendship, and workplace friendship.

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Workplace friendship; cross-group friendship; perceived oneness; self-expansion theory; motivation to cooperate; interrole conflict; age diversity beliefs

Due to demographic changes and policy-making, the composition of the industrialized workforce is changing with age gaps between employees becoming larger (Truxillo et al., 2015). In Germany, for example, the share of workers aged 55 and above had risen from 13.2% in 2000 to 24% in 2019 (Organization for Economic Cooperation and Development [OECD], 2021). The increasing age diversity brings challenges for organizations, such as the management of relationships between employees of different ages. Relationships between age-diverse employees are not always harmonious due to social categorization processes, where people naturally categorize themselves and others into ingroup and outgroup according to perceived similarity, for example, with regard to their age (Iweins et al., 2013; North & Fiske, 2015; Zacher et al., 2019). These social categorization processes can impair intergroup relations and as a consequence undermine beneficial work outcomes (Gerpott et al., 2019; Homan et al., 2007; Oliveira & Cabral-Cardoso, 2017). Although not exclusively negative (e.g., Li et al., 2020), research has shown that age diversity is linked to detrimental outcomes, such as a negative age-discrimination climate (Kunze et al., 2011, 2013), less frequent knowledge exchange (Ellwart et al., 2013), less group organizational citizenship behaviour (Seong & Hong, 2018), and lower team performance (Joshi & Roh, 2009).

However, while employees cannot influence the level of age diversity in their organization, they may benefit from the opportunity of having age-diverse colleagues if they make

friends with employees from another age-group. Friendships are facilitated in a context where people have an opportunity to meet whilst going about their daily life. The workplace provides therefore a possible “meeting site” for age-diverse friendships to develop (Elliott O’Dare et al., 2021, p. 7) and many people spend a substantial amount of time every day at work with up to more than 90,000 hours over the lifespan (Pryce-Jones, 2010), which suggests that we take a closer look at age-diverse friendships at work. *Age-diverse friendship* refers to socioemotional meaningful relationships between people of different ages (i.e., at least 10 years age difference; Holladay & Kerns, 1999; see also Dietz and Fasbender, 2021). In contexts where members of opposing social groups develop a friendship, they may expand their self by including aspects of the other age-group to one’s own (Davies et al., 2011; Wright et al., 2002). Self-expansion through age-diverse workplace friendships could therefore be a promising endeavour to overcome naturally occurring social categorization processes and lead to positive instead of negative outcomes. While promising, we know very little about age-diverse friendships (Dietz and Fasbender, 2021; Elliott O’Dare et al., 2019), which is surprising considering the age-diversification of workforces.

With this research, we turn to age-diverse friendship based on its potential to unite age-diverse employees. In particular, we focus on age-diverse friendship and its complex relation to *job satisfaction* (i.e., the positive (or negative) evaluation of one’s job; Weiss, 2002) and *turnover intentions*

CONTACT Ulrike Fasbender  ulrike.fasbender@uni-hohenheim.de

Authors’ Note: Ulrike Fasbender, University of Hohenheim, Business and Organizational Psychology. Lisbeth Drury, Birkbeck, University of London, Department of Organizational Psychology.

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(i.e., the willingness to leave one's organization for another job; Tett & Meyer, 1993). We focus on these work outcomes to represent the perspective of the employee (job satisfaction) and that of the organization (turnover intentions). Job satisfaction can be seen as a positive indicator for employee well-being. Turnover as a consequence of turnover intentions (Tett & Meyer, 1993) is associated with high costs for the organization (Rubenstein et al., 2018) and in some industries, such as healthcare, it leads to extreme pressure for the remaining staff to perform above their contracted hours to ensure business as usual (Fasbender et al., 2019). We utilize self-expansion theory (Aron et al., 1991, 2013) as an overarching theory that explains the link between age-diverse friendship and these relevant work outcomes. Specifically, we argue that age-diverse friendship can help age-diverse employees to *perceive oneness* (i.e., a sense of merged identity; Ashforth et al., 2016; Cialdini et al., 1997) with the respective other age-group. Perceived oneness is a central self-expansion mechanism that allows people to include the resources, perspectives, and identities of the other age-group to one's own (Davies et al., 2011; Wright et al., 2002). By enabling employees to expand their self through perceiving oneness with a colleague of the respective other age-group, friendship between age-diverse employees may function as "social glue" in organizations.

While perceived oneness resulting from age-diverse friendships may be seen as a largely positive construct leading to beneficial outcomes, there are tradeoffs to incorporating others' identity into oneself because it can create an internal conflict that comes with potentially negative consequences. Perceiving oneness may overwhelm employees as they are unsure about whether to take time for their friends who they feel close to or get on with work (Hommelhoff, 2019; Ingram & Zou, 2008; Methot et al., 2016). We therefore aim to uncover the countervailing effects of age-diverse friendship-related self-expansion. On the positive side, we expect perceived oneness to facilitate *motivation to cooperate* (i.e., to offer help and support; Grant, 2008) with members of the respective other age-group, which in turn should increase employees' job satisfaction and decrease their turnover intentions. On the negative side, we expect perceived oneness to provoke *interrole conflict* (i.e., incompatible demands related to separate roles; Kahn et al., 1964) with members of the respective other age-group, which in turn should decrease job satisfaction and increase turnover intentions. We summarize our conceptual ideas in Figure 1.

With this research, we aim to provide an age-specific lens on the beneficial and detrimental effects of workplace friendship by considering age-diverse friendship. Specifically, we contribute to the literatures on age diversity, cross-group friendships, and workplace friendships. First, we add to the age diversity literature by paying attention to age-diverse friendship at work. While a vast amount of research is contemplating whether age diversity is beneficial or detrimental for organizations (e.g., Kunze et al., 2013; Li et al., 2020; Seong & Hong, 2018), we point to the potential of age-diverse friendship in an age-diverse workforce, thus adding an alternative perspective to this ongoing debate. In fact, we refrain from studying the outcomes of age diversity itself, which is generally beyond an employee's control (and to a certain extent also beyond a company's control due to ongoing demographic changes; Oliveira & Cabral-Cardoso, 2017). Instead, we investigate the downstream consequences of age-diverse friendship as a specific type of workplace relationships in an age-diverse work environment.

Second, we connect the literature on cross-group friendships (e.g., Capozza et al., 2014; Davies et al., 2011; Prati et al., 2019) with research on workplace friendships (e.g., Methot et al., 2017; Pillemer & Rothbard, 2018). Specifically, we shed light on the mechanisms that link age-diverse friendship to relevant job attitudes. Based on self-expansion theory, we argue that by making friends with each other, age-diverse employees perceive oneness with the respective other age-group, which will eventually lead to higher job satisfaction and lower turnover intentions. Furthermore, we also add to the wider workplace friendship literature, in particular to the research that viewed workplace friendship as a potential double-edge sword (Hommelhoff, 2019; Ingram & Zou, 2008; Methot et al., 2016), by uncovering the potential positive (via motivation to cooperate) and negative (via interrole conflict) pathways that connect age-diverse friendship via perceived oneness to job satisfaction and turnover intentions.

Theoretical Background: Self-Expansion through Age-Diverse Friendship

Self-expansion theory (Aron et al., 1991) provides a useful theoretical perspective to understand the process that links age-diverse friendship to its proximal and distal outcomes at work. Self-expansion theory has been developed to explain the "the basic processes underlying human experiences and

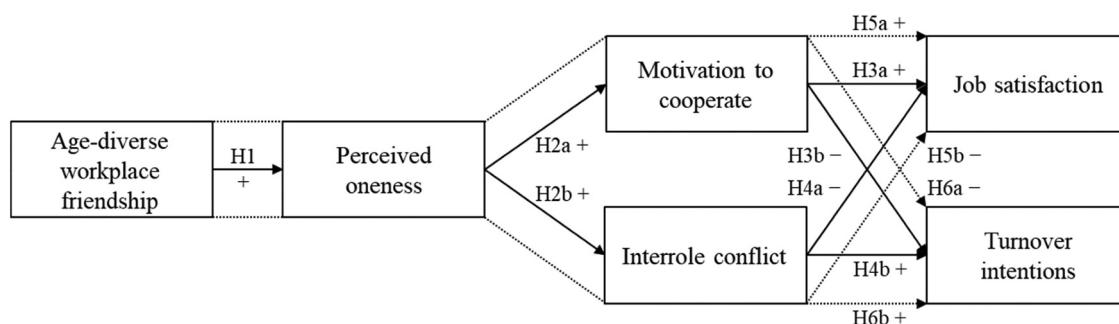


Figure 1. Conceptual Model on Self-Expansion through Age-Diverse Friendship at Work.

behavior in the context of close relationships" (Aron et al., 2013, p. 90). It relies on two fundamental principles. First, self-expansion theory assumes that people are inherently motivated to expand their self through close relationships to achieve greater efficacy (i.e., motivational principle). Second, the theory states that close relationships allow people to expand the self by inclusion of others in the self (i.e., inclusion-of-other-in-the-self principle). The inclusion of others in the self allows one to expand the self by psychologically claiming another person's resources, perspectives, and identities as one's own. Hence, when people become close, the self and the other are perceived as "one" (i.e., merging identities or overlapping selves), rather than separate beings.

This self-expansion process refers not only to the inclusion of individuals, but also of groups, ingroup or outgroup, in the self (Wright et al., 2002). In this regard, self-expansion theory has been linked to other important theories, in particular, theories on social identity (Tajfel, 1974; Tajfel & Turner, 1986), and intergroup contact (Allport, 1954). In short, social identity theory distinguishes between personal and social identity (e.g., identity based on individual idiosyncrasies vs. social group memberships) and explains that the self is not only driven by a personal but also by a social identity, therewith acknowledging their interconnectedness (J. C. Turner & Reynolds, 2001; Wright et al., 2002). Further, intergroup contact theory states that contact with outgroup members can improve attitudes and behaviour towards them (Pettigrew & Tropp, 2006). In contexts where members of opposing social groups are brought together to experience positive contact (social interactions), the perception of intergroup boundaries between social groups are blurred, therewith improving intergroup relations (Iweins et al., 2013). Cross-group friendship has been referred to as an especially powerful form of intergroup contact (Davies & Aron, 2016; Davies et al., 2011). In combining self-expansion with social identity and intergroup contact theories, Wright et al. (2002) explain that through contact with close others, people may include (aspects of) the outgroup in the self, which leads to an identification with the outgroup.

We build on the intergroup approach to self-expansion (Wright et al., 2002) as an overarching framework to connect age-diverse friendship with job attitudes. With our focus on the *work* context, we contribute to a more comprehensive understanding of self-expansion processes discussed in the cross-group friendship literature (see Davies et al., 2011 for a meta-analytic review). The majority of studies has investigated self-expansion processes through cross-group friendship in *non-work* contexts (e.g., high school or university), of which most were about race, nationality, or geographical regions (e.g., Capozza et al., 2020; Gómez et al., 2011; Prati et al., 2019; R. N. Turner et al., 2008; Welker et al., 2014), and few studies about other minority groups, such as disability (Vezzali et al., 2020) or homosexuality (Capozza et al., 2014). These studies have viewed self-expansion as an exclusively positive mechanism to improve intergroup relations (Davies et al., 2011), but overlooked its potentially negative effects at work. The focus on the work context allows us to consider positive and negative pathways that connect age-diverse friendship through self-expansion processes with job attitudes, and therefore, this study offers an important extension to self-expansion theory.

Hypotheses Development

Age-diverse Friendship and Perceived Oneness

Based on the intergroup approach to extension of the self-expansion theory (Wright et al., 2002), we refer to the self-expansion process of including the outgroup in the self as perceived oneness with members of the respective other age-group. In line with Cialdini et al. (1997, see also Ashforth et al., 2016), we define *perceived oneness* as a sense of merging identities between the self and the respective other age-group (i.e., a cognitive self-outgroup overlap). To illustrate, when perceiving oneness with the respective other age-group at work, age-diverse employees may experience the successes or failures of their befriended colleagues as their own. Specifically, we expect that age-diverse friendship can help employees to perceive oneness with the respective other age-group because including the outgroup in the self allows them to expand their selves by psychologically claiming the respective other age-group's resources, perspectives, and identities as their own (Wright et al., 1997).

Empirical evidence underpins this theoretical argument with regard to cross-group friendships outside the work context. For example, a study among English university students found that White participants' friendship with Asian students was linked to a stronger inclusion of Asian students in the White participants' selves (R. N. Turner et al., 2008). Another study found that Italian's cross-border friendships with people living in other European countries were related to a stronger identification as European (Prati et al., 2019). Similar effects were found for cross-group friendships between Northern and Southern Italian university students (Capozza et al., 2020). Moreover, research in an elementary school found that if asked to imagine becoming friends with a disabled child, participants perceived an overlap of identities between themselves and disabled children (Vezzali et al., 2020). With regard to age, Cadieux et al. (2019) found that younger people's positive contact with older adults led to a perceived overlap of identities. Taken together, we therefore assume that age-diverse friendship at work is positively linked to perceived oneness with members of the respective other age-group.

Hypothesis 1: Age-diverse friendship is positively related to perceived oneness.

Perceived Oneness, Motivation to Cooperate, and Interrole Conflict

We further theorize that perceived oneness with members of the respective other age-group has positive and negative consequences at work. On the positive side, we expect perceived oneness to facilitate *motivation to cooperate* with members of the respective other age-group. Motivation to cooperate means that "employees go above and beyond the call of duty" to help and support others (Grant, 2008, p. 48). Furthermore, it captures the momentary focus on promoting and protecting the welfare of others at work (Grant, 2008). In explaining the link between perceived oneness and motivation to cooperate, we refer to Cialdini et al.'s (1997) influential work

on why people are willing to help others. Specifically, we argue that employees' feelings of oneness can lead to a reduced focus on the self (Cialdini et al., 1997). In this regard, "supporting others is no longer perceived as a costly investment of resources that renders one's own goal attainment more difficult because the interests of self and others become integrated and interchangeable" (Fasbender et al., 2020b, p. 412). We therefore expect that self-expansion as in perceived oneness with members of the respective other age-group leads to motivation to cooperate with them. Empirical studies conducted outside the work context support our reasoning. For example, research conducted with university students found that perceived oneness is positively related to willingness to help a person in need (e.g., someone who was just evicted from their apartment, children without home, or a person in need to make a phone call; Cialdini et al., 1997; Maner & Gailliot, 2007; Maner et al., 2002). With regard to intergroup relations, research has mainly focused on the improvement of attitudes towards outgroup members as a result of self-expansion (e.g., Cadieux et al., 2019; R. N. Turner et al., 2008; Welker et al., 2014). Recent research further found that the cognitive overlap between the self and an outgroup member (i.e., a disabled child) can lead to helping intentions (i.e., intentions to counteract social exclusion and bullying of disabled children; Vezzali et al., 2020). Considering these current findings, we therefore predict that perceived oneness is positively related to motivation to cooperate.

Hypothesis 2a: Perceived oneness is positively related to motivation to cooperate.

On the negative side, we expect perceived oneness to provoke *interrole conflict* with members of the respective other age-group. In general, interrole conflict refers to incompatible demands related to two separate roles (Kahn et al., 1964). Most individuals hold multiple roles in life, which can imply incompatible role demands (Kahn et al., 1964; Settles et al., 2002). Each role is linked to different normative expectations (Biddle, 1986; Rizzo et al., 1970). The formal role of being an employee is linked to instrumental role demands (e.g., completing a project in a given time-frame), whereby the informal role of being a friend with members of another age-group is linked to socioemotional role demands (e.g., paying attention to one's friend's personal issues; Pillemer & Rothbard, 2018). These demands from two separate roles merged through self-expansion can lead employees to experience interrole conflict (Kahn et al., 1964; Ritter et al., 2016; Rizzo et al., 1970). We argue that self-expansion as in perceived oneness can trigger interrole conflict because employees are no longer able to distinguish between their formal role fulfilling instrumental role demands and their age-diverse friendship role related to socioemotional goals. The experience is particularly relevant for age-diverse friendship at work, because age-diverse employees may possess a different status in the organization, which brings further complication to the matter (Hommelhoff, 2019). Research on the downsides of workplace friendships is generally sparse, however, in support of our conceptual ideas, initial research found that workplace friendship is linked to higher levels of interrole conflict

(Fasbender et al., Fasbender, et al., 2020a), possibly due to self-expansion. It is therefore plausible that perceived oneness is linked to interrole conflict. In sum, we hypothesize:

Hypothesis 2b: Perceived oneness is positively related to interrole conflict.

Motivation to Cooperate, Job Satisfaction, and Turnover Intentions

In turn, we expect motivation to cooperate with members of the respective other age-group to have further consequences for employees' job satisfaction and turnover intentions. Job satisfaction is a job-related attitude that can be conceptualized as the positive (or negative) evaluation of one's job (Weiss, 2002). Furthermore, turnover intentions describe "the last in a sequence of withdrawal cognitions, a set to which thinking of quitting and intent to search for alternative employment also belong" (Tett & Meyer, 1993, p. 262). We theorize that motivation to cooperate resulting from friendship-related self-expansion is linked to higher job satisfaction and lower turnover intentions. Employees' motivation to "make a prosocial difference" has identity consequences, such as that employees perceive a greater sense of competence, self-determination, and social worth at work (Grant, 2007, p. 393). Based on this notion, we argue that motivation to cooperate with members of the other age-group touches upon the social aspects of the job and contributes to fulfilling employees' basic psychological needs, in particular their sense of competence and social worth at work, which should lead employees to evaluate their job more favourably and reduce their willingness to look for another job elsewhere. Previous research supports our conceptual ideas regarding the links between motivation to cooperate and job satisfaction (Grant, 2008; Steijn & van der Voet, 2019) and turnover intentions (Hu & Liden, 2015; Yada et al., 2020). Based on our theoretical arguments and the empirical findings, we hypothesize:

Hypothesis 3: Motivation to cooperate is a) positively related to job satisfaction and b) negatively related to turnover intentions.

Interrole Conflict, Job Satisfaction, and Turnover Intentions

Moreover, we expect interrole conflict with members of the respective other age-group to have further consequences for employees' job satisfaction and turnover intentions. In this regard, we argue that interrole conflict resulting from friendship-related self-expansion is demanding because employees need to invest resources into navigating the tensions between the different role demands related to being an employee and being a friend with an age-diverse colleague, which makes employees feel drained and exhausted at work (Fasbender, et al., 2020a; Methot et al., 2016). This unpleasant mental state of low resources and energy levels associated with interrole conflict may lead employees to become unsatisfied with their jobs and consider leaving their organization to work elsewhere. In line with our arguments, research found that role conflict and

other role stressors are linked to reduced job satisfaction (Eatough et al., 2011; N. P. Podsakoff et al., 2007) and increased turnover intentions (Hang-Yue et al., 2005; Nelson et al., 2021). We therefore expect that employees' interrole conflict with members of the respective other age-group is negatively associated with their job satisfaction and positively associated with their turnover intentions.

Hypothesis 4: Interrole conflict is a) negatively related to job satisfaction and b) positively related to turnover intentions.

Age-diverse Friendship and its Indirect Relation to Job Satisfaction and Turnover Intentions

By integrating our conceptual ideas, we predict that age-diverse friendship has indirect relations with job satisfaction and turnover intentions mediated through the parallel effects of perceived oneness on motivation to cooperate and on interrole conflict. Age-diverse friendship creates the grounds for employees to psychologically claim the respective other age-group's resources, perspectives, and identities as their own (Aron et al., 1991; Wright et al., 1997). In turn, this perceived oneness facilitates employees' motivation to cooperate with the respective other age-group because supporting them is in one's own interest that is merged with the interest of the other age-group (cf. Cialdini et al., 1997; Maner et al., 2002; Maner & Gailliot, 2007; Vezzali et al., 2020). Furthermore, motivation to cooperate should lead employees to evaluate their job more favourably (Grant, 2008; Steijn & van der Voet, 2019), and reduce their willingness to look for another job elsewhere (Hu & Liden, 2015; Yada et al., 2020), because it contributes to employees' sense of competence and social worth in their organization (Grant, 2007). In parallel, perceived oneness leads employees to experience greater interrole conflict because employees may struggle to navigate the different demands related to the formal employee role and the informal friendship role (Fasbender, et al., 2020a). In turn, interrole conflict drains employees' cognitive and emotional resources (Fasbender, et al., 2020a; Methot et al., 2016), which is why employees become unhappy in their job (Eatough et al., 2011; N. P. Podsakoff et al., 2007), and consider leaving their organization to work elsewhere (Hang-Yue et al., 2005; Nelson et al., 2021). In sum, we expect that perceived oneness and its parallel effects on motivation to cooperate and interrole conflict can explain the relations of age-diverse friendship with job satisfaction and turnover intentions.

Hypothesis 5: Age-diverse workplace friendship has a) a positive indirect effect on job satisfaction via perceived oneness and motivation to cooperate and b) a negative indirect effect on job satisfaction via perceived oneness and interrole conflict.

Hypothesis 6: Age-diverse workplace friendship has a) a negative indirect effect on turnover intentions via perceived oneness and motivation to cooperate and b) a positive indirect effect on turnover intentions via perceived oneness and interrole conflict.

Method

Sample and Procedure

In 2021, we collected data two-wave data from age-diverse co-worker dyads in Germany. Participants were recruited based on having regular work contact, being peers of similar status, and their age difference. Each dyad was composed of an older and a younger colleague, whereby the minimum age difference was 10 years, in line with previous research on age-diverse friendship (Holladay & Kerns, 1999). To prevent common method bias, we temporally separated the measurement of workplace friendship from perceived oneness and the other variables by about four weeks. Using personal networks can be an effective way to collect dyadic data because it allows researchers to keep in contact with participants (Fasbender, et al., 2021), which is particularly important if dyadic data is collected over multiple waves. Personal networks can be used and extended through student-recruited sampling. Student-recruited sampling helps to generate large sample sizes and when compared to other sampling techniques, student-recruited samples show similar relations between variables (Wheeler et al., 2014). Another advantage is that student-recruited sampling helps to recruit a heterogeneous sample (Demerouti & Rispens, 2014). Given these advantages, we instructed students to recruit participants within their networks, allowing us to access participants from various jobs and industries (Demerouti & Rispens, 2014; see also Burmeister et al., 2018, 2020; Fasbender, et al., 2021 for a similar procedure). Specifically, we prepared a short description of the study that students used to contact employees, who nominated an older or younger colleague to take part as a dyad. Prospective participants were instructed to nominate a colleague based on having regular work contact with them (i.e., at least once a month), being peers of similar status (i.e., absence of disciplinary responsibility), and their age difference (i.e., minimum age difference of 10 years). If employees raised an interest (119 dyads initially), we sent them a personalized link to the online survey via email and instructed participants to individually complete the survey. We used participant codes to match the data from the two respective colleagues.

We received complete data from 100 dyads, resulting a response rate of 84%. Of these, seven dyads were removed because their age difference was below 10 years, consequently yielding a final sample of 93 age-diverse co-worker dyads ($N = 186$ employees). The average age of participants was 41.66 years ($SD = 12.65$) with younger colleagues being on average 31.84 years ($SD = 7.84$) and older colleagues being on average 51.47 years ($SD = 8.09$). In total, 75 dyads (80.6%) worked at least one year together. Most participants were female (114 participants; 61.3%) and worked in white-collar jobs (144 participants; 77.4%). We sampled participants from different industries, most represented industries were public sector (27.4%), technology, media and communication (12.4%), health sector (9.7%), and finance (7.5%).

Measures

We used scales with multiple items to operationalize our constructs. Unless stated otherwise, we asked participants to respond on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). All scales were translated to German following Brislin's (1970) recommendations.

Age-diverse friendship

We assessed age-diverse friendship with the six-item scale from Nielsen et al. (2000) that captures the extent to which employees have formed strong friendship with their colleagues. We amended this scale to singular (i.e., the respective colleague). An example item was "I feel that my colleague is a true friend" ($\alpha = .79$).

Perceived oneness

We measured perceived oneness with four items adapted from the organizational identification scale by Mael and Ashforth (1992). We adapted the items to the context of age diversity, by changing references from organization to the respective colleague from another age-group based on the conceptual definition of oneness from Cialdini et al. (1997). An example item was "My colleague's successes feel as my successes" ($\alpha = .85$).

Motivation to cooperate

We measured motivation to cooperate with the five-item scale from Grant and Sumanth (2009). An example item was "I like to work on tasks that have the potential to benefit my colleague" ($\alpha = .79$).

Interrole conflict

We measured interrole conflict with the five-item scale from Fasbender et al. (2020a) that captures the extent to which participants experienced conflict between their roles as employee vs. friend. An example item was "Socializing with my colleague interferes with my responsibilities at work" ($\alpha = .89$).

Job satisfaction

We measured job satisfaction with the three items from Judge et al. (2005). Participants reported the extent to which they liked their present job. An example item was "I feel fairly satisfied with my present job" ($\alpha = .81$).

Turnover intentions

We assessed turnover intentions with the four-item scale from Kelloway et al. (1999). Participants reported the extent to which they intended to leave their organization. An example item was "I am thinking about leaving this organization" ($\alpha = .94$).

Control variables

We controlled for employees' age because research highlighted that older employees tend to perceive their future time perspective to be limited and therefore put more emphasis on socially meaningful relationships, including friendships (Carstensen, 2006; Fasbender et al., 2020b). Also, we controlled for gender (i.e., binary coded with 0 = *Male* and 1 = *Female*)

referring to a meta-analysis (Hall, 2011) showing that men and women differ in their friendship expectations (e.g., such as intimacy), which may result in different levels of perceived oneness. Furthermore, we controlled for organizational tenure because with increasing time in the organization, employees are more likely to feel attached to their colleagues. Following previous research dyadic data (see for example, Burmeister et al., 2018), we also controlled for age, gender, and tenure of the respective colleague.

Analytical Strategy

We acknowledge the non-independence of our data with employees being nested in dyads using multi-level modelling in Mplus 8.4 (Muthén & Muthén, 2019). Following Kenny et al.'s (2006) recommendations and earlier research using dyadic data (Burmeister et al., 2018), we grand-mean centred the predictor variables used in this study. In addition to the hypothesized relations, we included the direct effects of age-diverse friendship and perceived oneness on the endogenous variables because neglecting these could result in an overestimation of indirect effects (Preacher & Hayes, 2008). Furthermore, our control variables (age, gender, tenure as well as colleague's age, gender, and tenure) were regressed on both the mediator (perceived oneness, motivation to cooperate, interrole conflict) and the outcome variables (job satisfaction and turnover intentions). Finally, in R (R Core Team, 2017), we used parameter-based bootstrap with the Monte Carlo method to compute the confidence intervals for the indirect effects (Preacher, 2015).

Results

Means, standard deviations, and correlations of variables can be seen in Table 1. The calculation of interclass correlations (ICC) showed the amount of variance that can be attributed to the dyadic-level (age-diverse friendship: ICC = .67; perceived oneness: ICC = .62; motivation to cooperate: ICC = .45; interrole conflict: ICC = .59; job satisfaction: ICC = .57; turnover intentions: ICC = .55). Table 2 shows the estimated direct effects.

Hypotheses 1 to 4 refer to the direct relations between age-diverse friendship, perceived oneness, motivation to cooperate, interrole conflict, job satisfaction, and turnover intentions. In line with Hypothesis 1, we found that age-diverse friendship had a positive effect on perceived oneness ($\gamma = .36$, $SE = .10$, $p < .001$). Furthermore, perceived oneness had positive effects on motivation to cooperate ($\gamma = .11$, $SE = .05$, $p = .020$) and interrole conflict ($\gamma = .25$, $SE = .07$, $p < .001$), supporting Hypotheses 2a and 2b. However, the effects of motivation to cooperate on job satisfaction ($\gamma = .07$, $SE = .09$, $p = .433$) and turnover intentions ($\gamma = -.04$, $SE = .13$, $p = .765$), were not significant, therefore not supporting Hypotheses 3a and 3b. In line with Hypotheses 4a and 4b, we found that interrole conflict had a negative effect on job satisfaction ($\gamma = -.18$, $SE = .06$, $p = .002$) and a positive effect on turnover intentions ($\gamma = .29$, $SE = .09$, $p = .001$).

Hypotheses 5 and 6 refer to age-diverse friendship and its indirect relation to job satisfaction and turnover intentions. Table 3 shows the estimated indirect effects. Contrary to Hypothesis 5a, we found that the indirect effect of age-diverse friendship on job satisfaction via perceived oneness and

Table 1. Means, Standard Deviations, and Within-dyad Correlations of Study Variables.

Variable	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
(1) Age	41.66	12.65	-											
(1) Gender	1.61	0.49	.08	-										
(1) Tenure	8.01	3.70	.61	.06	-									
(1) Colleague's age	41.66	12.65	-.39	-.09	-.33	-								
(1) Colleague's gender	1.61	0.49	-.09	.14	-.11	.08	-							
(1) Colleague's tenure	8.01	3.70	-.33	-.11	-.17	.61	.06	-						
(1) Age-diverse friendship	3.58	0.72	-.05	.11	.13	.01	.03	.11	(.79)					
(1) Perceived oneness	2.72	0.91	.07	.02	.13	-.19	-.06	-.06	.27	(.85)				
(1) Motivation to cooperate	3.93	0.56	-.05	.03	.00	.07	.02	.06	.31	.23	(.79)			
(1) Interrole conflict	2.01	0.83	.02	-.00	.07	-.08	.01	-.13	-.01	.25	.00	(.89)		
(1) Job satisfaction	3.98	0.66	-.14	-.00	-.12	-.10	.16	.03	.07	-.01	.07	-.23	(.81)	
(1) Turnover intentions	1.83	0.97	-.16	-.09	-.14	.15	-.03	.04	-.04	.03	-.02	.24	-.45	(.94)

Note. $N_{Level-1} = 170-186$. Reliabilities (Cronbach's alphas) are in parentheses on the diagonal. Significant correlations are highlighted in bold at $p < .05$.

Table 2. Results of Dyadic Data Analysis (Direct Effects).

	Perceived oneness			Motivation to cooperate			Interrole conflict		
	Estimate	SE	p-value	Estimate	SE	p-value	Estimate	SE	p-value
Level-1 (within-dyad)									
Age	.00	.01	.964	.00	.00	.955	-.01	.01	.384
Gender	-.05	.14	.740	.01	.09	.891	-.04	.13	.762
Tenure	.01	.02	.749	-.003	.02	.841	.02	.02	.349
Colleague's age	-.02	.01	.016	.00	.00	.337	.01	.01	.467
Colleague's gender	-.07	.14	.604	.02	.09	.806	.05	.13	.688
Colleague's tenure	.02	.02	.534	-.002	.02	.885	-.04	.09	.084
Age-diverse friendship	.36	.10	<.001	.21	.06	.001	-.10	.09	.272
Level-1 variance	.12	.05	.010	.13	.05	.008	.09	.04	.031
				Job satisfaction			Turnover intentions		
Level-1 (within-dyad)				Estimate	SE	p-value	Estimate	SE	p-value
Age				-.01	.01	.170	-.01	.01	.305
Gender				-.04	.10	.687	-.12	.15	.406
Tenure				-.01	.02	.455	-.02	.03	.558
Colleague's age				-.01	.01	.005	.01	.01	.072
Colleague's gender				.23	.10	.021	-.09	.15	.522
Colleague's tenure				.02	.02	.273	-.02	.03	.347
Age-diverse friendship				.05	.08	.525	-.04	.11	.742
Perceived oneness				.00	.06	.984	.02	.09	.809
Motivation to cooperate				.07	.09	.433	-.04	.13	.765
Interrole conflict				-.18	.06	.002	.29	.09	.001
Level-1 variance				.14	.05	.004	.12	.05	.012

Note. $N_{Level-1} = 170$, $N_{Level-2} = 90$. Significant estimates are highlighted in bold at $p < .05$.

motivation to cooperate (*indirect effect* = .003, 95% CI [-.004, .013]) was not significant. In line with Hypothesis 5b, we found that age-diverse friendship had a significant negative effect on job satisfaction via perceived oneness and interrole conflict (*indirect effect* = -.016, 95% CI [-.037, -.004]). Similarly, we found that the indirect effect of age-diverse friendship on turnover intentions via perceived oneness and motivation to cooperate (*indirect effect* = -.002, 95% CI [-.014, .010]) was not significant, therefore not supporting Hypothesis 6a. In line with Hypothesis 6b, we found that age-diverse friendship had

Table 3. Indirect Effects of Age-diverse Friendship on Job Satisfaction and Turnover Intentions.

	Test of serial mediation		
	Estimate	CI LL	CI UL
Age-diverse friendship → perceived oneness → motivation to cooperate → job satisfaction	.003	-.004	.013
Age-diverse friendship → perceived oneness → interrole conflict → job satisfaction	-.016	-.037	-.004
Age-diverse friendship → perceived oneness → motivation to cooperate → turnover intentions	-.002	-.014	.010
Age-diverse friendship → perceived oneness → interrole conflict → turnover intentions	.026	.006	.057

Note. $N_{Level-1} = 170$. CI LL = lower level of bias-corrected 95% confidence interval, CI UL = upper level of bias-corrected 95% confidence interval. Significant estimates are highlighted in bold.

a significant positive effect on turnover intentions via perceived oneness and interrole conflict (*indirect effect* = .026, 95% CI [.006, .057]).

Discussion

With our research, we aimed to focus on age-diverse friendship and decode its complex relation with job satisfaction and turnover intentions. Based on self-expansion theory, we examined how and through which mechanisms age-diverse friendship can lead to both positive and negative consequences at work. In a two-wave dyadic study, we found support for the self-expansion hypothesis showing that age-diverse friendship predicted perceived oneness about four weeks later. In turn, perceived oneness was positively related to motivation to cooperate (beneficial) and interrole conflict (detrimental). Furthermore, we found that perceived oneness with members of the respective other age-group via interrole conflict explained why age-diverse friendship is negatively linked to job satisfaction and turnover intentions. We did not find support for our hypothesized beneficial path from age-diverse friendship to job satisfaction and turnover intentions via perceived oneness and motivation to cooperate.

Theoretical Implications

Our research provides novel insights that help to integrate the age diversity, cross-group friendship, and workplace friendship literatures. First, we extend and connect the literatures on cross-group and workplace friendships by decoding the

mechanisms that link age-diverse friendship to relevant work outcomes. While previous research found that both workplace friendship and cross group friendship are related to more helping intentions and behaviours (Abbott & Cameron, 2014; Berman et al., 2002; Scott et al., 2018; Vezzali et al., 2020; Xiao et al., 2020; Yu et al., 2021), we add to this literature by revealing some of the underlying mechanisms. In this regard, we connect the literature on workplace friendships (Donati et al., 2016; Methot et al., 2016; Morrison, 2004; Nielsen et al., 2000; Pillemer & Rothbard, 2018; Riordan & Griffeth, 1995; Scott et al., 2018) with research on cross-group friendships (Cadieux et al., 2019; Capozza et al., 2014; Davies et al., 2011; Prati et al., 2019; R. N. Turner et al., 2008; Wright et al., 1997, 2002) by introducing workplace friendship between different age-groups as a specific form of cross-group friendship that can function as “social glue” in organizations. In line with previous research (Cadieux et al., 2019; R. N. Turner et al., 2008; Vezzali et al., 2020), we utilized self-expansion theory in a cross-group context to explain that age-diverse friendship facilitates perceived oneness with members of the respective other age-group. Moreover, we add to this research by explaining that perceived oneness not only shapes the identification with out-group members but has important implications for the work context.

Specifically, we identify a positive path via perceived oneness to show how age-diverse friendship is related to motivation to cooperate. This supports evidence showing that workplace and cross-group friendships lead to prosocial outcomes (Abbott & Cameron, 2014; Berman et al., 2002; Scott et al., 2018; Vezzali et al., 2020; Xiao et al., 2020; Yu et al., 2021). Furthermore, our findings extend the cross-group friendship literature by identifying that age-diverse friendship, via perceived oneness, is related to helpful outcomes (i.e., motivation to cooperate) within the workplace and that this association occurs via actual friendship experience in addition to imagined friendships (Vezzali et al., 2020). Increased motivation to cooperate is beneficial for individuals and organizations. Prosocially motivated employees are more engaged and better equipped to deal with job demands and exhaustion (Abid et al., 2018; Bakker, 2015); plus they demonstrate more organizational citizenship behaviours and improved job performance (Arshad et al., 2021; Cai et al., 2019). By uncovering a detrimental pathway (via interrole conflict) that links age-diverse friendship via perceived oneness to job satisfaction and turnover intentions, we add to the wider workplace friendship literature, in particular to the research that viewed workplace friendship as a mixed blessing (Hommelhoff, 2019; Ingram & Zou, 2008; Methot et al., 2016; Pillemer & Rothbard, 2018). In this regard, we also add to the diversity literature discussing the reality vis-à-vis the promises of diversity (Mannix & Neale, 2005).

In addition, our findings contribute to the wider debate on age in the workplace. Consistent with research on intergenerational contact at work (Fasbender & Wang, 2017; Henry et al., 2015; Iweins et al., 2013), our findings highlight age-diverse friendship as a relevant means to achieving harmony between different age groups. In this regard, we move away from earlier approaches that discussed the general usefulness of age diversity for organizations (e.g., Kunze et al., 2013; Li et al., 2020; Seong & Hong, 2018), and turn the scholarly conversation

around to emphasize the importance of finding ways to elicit its virtue in enabling functional workplace relationships between age-diverse employees. In this regard, our focus on age-diverse friendship allows us to move beyond age as the only distinguishing feature defining workplace relationships. Considering socioemotional meaning as a defining feature of workplace friendship, our findings thus emphasize that despite age differences, there can be strong bonds between employees that lead to powerful and beneficial job attitudes, such as higher motivation to cooperate. We believe that our focus on age-diverse friendship thus provides an alternative perspective to this ongoing debate of age in the workplace and hope to inspire future research to discover further fruitful approaches to utilize the benefits of “different ages” in the workplace.

Practical Implications

Our findings offer organizations practical implications to benefit from positive outcomes of age-diverse friendship at work. As a first step, it is important for organizations to provide opportunities for age-diverse workplace friendships to develop because such opportunities are directly related to a greater prevalence of friendships at work (Nielsen et al., 2000; see also Dietz and Fasbender, 2021 for a review). In this regard, organizations can signal support for friendships to their employees by demonstrating tolerance for visits and informal conversations between employees to allow them to get to know each other. It is important that colleagues are able to exchange personal information which is crucial for the development and maintenance of friendship (Draper et al., 2008). For example, organizations may provide social spaces where age-diverse colleagues feel permitted and comfortable to interact with each other during the working day, for instance, by installing informal seating in common areas where employees gather (e.g., by the water cooler) or providing designated break-out rooms where employees can interact socially during their breaks. Organizations can also arrange functions and gatherings for age-diverse employees to interact informally, such as celebrations of work achievements.

Another avenue to provide opportunities for age-diverse friendships involves the redesign of formal organizational structures, such as the way jobs are assigned to age-diverse employees. In particular, job assignments that involve collaboration between colleagues can lead to friendship at work, for example, when tasks and outcomes are interdependent (Yakubovich & Burg, 2019). Interacting at work at a deeper level required during interdependent tasks should help age-diverse work dyads develop an appreciation of their deeper-level similarities (e.g., work ethic, work values), which are important for the development of friendships (Sias & Cahill, 1998). Organizations can encourage age-diverse friendships via task interdependence by designing projects whereby each age-diverse colleague completes their individual task in line with an overall common goal, then collectively pool the task outcomes and synthesize the knowledge they gained during their individual tasks. Therefore, careful restructuring of age-diverse colleagues’ job assignments can lay the foundations for age-diverse friendships to develop.

Second, our findings suggest that organizations should pay particular attention to protect against interrole conflict due to perceived oneness resulting from age-diverse friendship to avoid its negative associations with job satisfaction and turnover intentions. It is likely that the interrole conflict experienced drains employee resources due to regulation needed to manage the conflict (Methot et al., 2016). For example, employees may often be faced with dilemmas about which tasks (work tasks or friendship tasks) to address first (Methot et al., 2016). This resource depletion and subsequent exhaustion (Barling & Frone, 2017; Barling & Macintyre, 1993; Rivkin et al., 2015) may explain the damaged job satisfaction and turnover intentions evident in this study. One method to tackle interrole conflict is for organizations to offer friendship support (Fasbender, et al., 2020a). Organizational support can provide resources (Hochwarter et al., 2006; Wallace et al., 2009), allowing employees to more successfully juggle their interrole conflict. Organizations can demonstrate their support for age-diverse friendships by providing clarity and guidance: For example, organizational policies could be set up to guide employees by explaining the “dos and don’ts” regarding age-diverse friendships at work (Fasbender, et al., 2020a).

Limitations and Future Research Directions

Although our findings contribute important insights, there are limitations that should be considered when interpreting the results. We asked employees to nominate a colleague, which could lead to a selection bias as employees may have nominated a befriended colleague. The reduced variance due to range restriction resulting from a possible selection bias is a more conservative approach to testing hypotheses, which means that the true effect may be actually larger (Fasbender & Gerpott, 2021). The range restriction of variables (i.e., motivation to cooperate) could also explain why our hypothesized beneficial path from age-diverse friendship to job satisfaction and turnover intentions via perceived oneness and motivation to cooperate was non-significant. Future research may reduce the concerns related to range restriction by randomly selecting co-worker dyads from organizational units.

Further, the correlational nature of the design hampers the ability to infer causality. We cannot conclude without doubt that age-diverse friendship leads to motivation to cooperate, job satisfaction and turnover intentions via the mechanisms identified. Even though we used a time-lagged design, collecting data at two separate time points, we cannot rule out that age-diverse friendship evolves because of motivation to cooperate, job satisfaction and (low) turnover intentions. Future research may examine the causal effects of age-diverse friendship via experiments. The “fast friends” intervention focuses on developing closeness in relationships (Aron et al., 1997), and has allowed for the experimental study of friendships effects across different non-work contexts (e.g., Dys-Steenbergen et al., 2016). The manipulation involves participant pairs completing a series of discussion exercises of increasingly intimate self-disclosure (e.g., revealing information about oneself; Derlega et al., 1993). This intervention could be adapted to create age-diverse friendships at work. For example, age-diverse colleagues could

discuss questions, such as: What does friendship mean to you? What do you like about your colleague? Additionally, cross-lagged longitudinal survey designs in which participants think about and respond in relation to an age-diverse colleague overtime could add support to the causal nature of relationships between variables.

Moreover, our survey design may raise concerns with common-method bias. We used multisource-data to test our hypotheses, which reduces these concerns. In addition, we employed procedural remedies by separating the measurement of workplace friendship from perceived oneness and the other variables to further reduce these concerns (P. M. Podsakoff et al., 2012). Future research could use alternative designs to avoid issues arising from common-method bias. In this regard, social network analysis may be a promising endeavour (see for example, Donati et al., 2016; Scott et al., 2018). In addition, collecting data via more objective measures can address issues of common-method bias, for example, data reporting actual employee turnover.

Our findings provide a springboard for research to further understand the role of age-diverse friendships at work. Age homophily, a tendency to develop friendships with similar aged-others (Lazarsfeld & Merton, 1954; McPherson et al., 2001) is one potential barrier to age-diverse friendships. Yet, the workplace may buffer these effects as empirical support for this phenomenon is not reliable for workplace relationships (Kammeyer-Mueller et al., 2011). Workplace friendships are formed via deep-level (e.g., attitudes) rather than surface-level (e.g., age) similarities (Sias & Cahill, 1998) and working together should facilitate engagement at a deep-level. Thus, despite a lack of surface-level similarity, friendships can develop when deep-level work-related similarities are accessible. “Confidence in contact” (R. N. Turner & Cameron, 2016) supports this notion, whereby similarities (e.g., in attitudes) combined with contact opportunities (e.g., age-diversity workforce), promote the development of cross-group friendships. Future research may compare the predictive role of surface- and deep-level similarities in age-diverse and age-similar workplace friendships, and develop interventions to foster the identification of deep-level similarities.

Apart from chronological age, there are other meanings of age that could be relevant for age-diverse friendships at work (Kooij et al., 2008). Subjective age may interact with age homophily to predict the formation of age-diverse friendships. Subjective age refers to the age one feels, looks and acts (Kastenbaum et al., 1972), and is increasingly studied in relation to workplace outcomes (e.g., Drazic & Schermuly, 2021; Kunze et al., 2015; Nagy et al., 2019). However, research examining age-diverse workplace relationships and the wider intergenerational relationship literature lacks understanding of subjective age (Giles et al., 2008). Subjective age could reduce or increase the effect of age homophily on age-diverse friendships at work by increasing or reducing the perceived age gap. Despite an actual age difference of ten years, employees may not feel subjectively younger or older from their age-diverse colleague due to their different subjective age. This should reduce the effects of age homophily on age-diverse friendship formation by increasing the perceived surface-

level similarity. Thus understanding the influence of subjective age (or subjective age difference) on age-diverse friendship formation presents an important avenue for future research.

Regarding the formation of age-diverse friendship at work, it may also appear counter intuitive that instrumental goals motivating self-expansion can lead to socioemotional meaningful friendships (Morrison & Cooper-Thomas, 2016; Pillemer & Rothbard, 2018; Sias & Cahill, 1998). However, Ingram and Zou (2008) emphasize a “blended” approach to understand the unique dynamics of workplace friendships, whereby instrumental and socioemotional ties co-exist. They argue that it should be impossible for workplace friendships to develop via socioemotional motivations only, due to the instrumental interdependence inherent in workplace social networks. Thus, instrumental motivations should not impede the development of fulfilling, meaningful workplace friendships. Whether it is the instrumental or the socioemotional motivation that primarily drives the development of age-diverse friendships demands future research.

Future research may also uncover the role of self-expansion processes in light of other age-diverse workplace relationships (e.g., mentor/mentee or leader/follower relationships, Choi et al., 2019; Dansereau et al., 2013; Eby & Robertson, 2020; Mao et al., 2019). Status differences between colleagues have been argued to shape attributions and centrality of friendship at work (Bingham et al., 2014). In this regard, research could examine whether the associations of age diverse friendship are attenuated by status differences between co-worker dyads. As mentioned previously, self-disclosure is important for closeness within friendships (Aron et al., 1997; Draper et al., 2008; Page-Gould et al., 2008). Yet, employees may be reluctant to share information that could be perceived as career damaging with age-diverse friends that are senior to them (Eby & Robertson, 2020). Such a reluctance to engage in mutual disclosure may damage the formation and maintenance of the friendship. Future research could explore the consequences of any shared disclosure imbalance within age-diverse, status-differential workplace friendships.

Future research may also explore additional outcomes of age-diverse friendships, such as creativity, problem-solving, decision-making, and task performance. In this respect, self-expansion resulting from age-diverse friendships may trigger perspective taking and cognitive expansion, which have been shown to increase cognitive performance (Galinsky et al., 2008; Grant & Berry, 2011). Engaging with diverse others encourages employees to consider other perspectives and helps employees to move away from simplistic modes of information processing by reducing a reliance on stereotypes and heuristic thinking (Hodson et al., 2018). The disruption of employees’ habitualized thinking patterns may facilitate more elaborate cognitions and flexible thinking that in turn should benefit creativity, problem-solving, decision-making, and task performance. We therefore encourage future research to investigate these cognitive pathways of self-expansion resulting from age-diverse workplace friendship.

Conclusion

In times of global ageing and age-diversification of workforces, this study contributes to the emerging literature on age-diverse workplace friendship by examining its complex relation to job attitudes from a self-expansion perspective. We demonstrated that age-diverse workplace friendship was related to perceived oneness, which in turn was directly linked to motivation to cooperate (positive path) and indirectly linked to job satisfaction and turnover intentions via interrole conflict (negative path). Over all, our study provides a deeper understanding of the psychological processes inherent in the benefits and drawbacks of age-diverse friendship, which is vital for successful management of age-diverse workforces.

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ORCID

Ulrike Fasbender  <http://orcid.org/0000-0001-6711-5732>

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