Is competence without humility wasted in building the trust necessary for knowledge transfer in younger/older worker dyads?

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Abstract

Purpose – *Successful knowledge transfer (KT) between younger and older workers (YW and OW, respectively) is critical for organizational success, especially in light of the recent surge in employment volatility among the youngest and oldest segments of the workforce. Yet, practitioners and scholars alike continue to struggle with knowing how best to facilitate these exchanges. The qualitative study offers insight into this phenomenon by exploring how KT unfolds in YW/OW dyads.*

Design/methodology/approach – *The authors performed a reflexive thematic analysis of semistructured interviews with two samples of blue- and white-collar younger/older workers from the USA (N = 40), whereby the authors interpreted the "lived experiences" of these workers when engaged in interdependent tasks.*

Findings – *The analysis, informed by social exchange theory and exchange theories of aging, led to the development of the knowledge transfer process model in younger/older worker dyads (KT-YOD). The model illustrates that, through different combinations of competence and humility, KT success is experienced either directly (by workers weighing the perceived benefits versus costs of KT) and/or indirectly (through different bases of trust/distrust perceived within their dyads). Further, humility in dyads appears to be necessary for KT success, while competence was insufficient for realizing KT success, independently.*

Originality/value – *In exposing new inner workings of the KT process in YW/OW dyads, the study introduces the importance of humility and brings scholars and organizations a step closer toward realizing the benefits of age diversity in their workplaces.*

Keywords Knowledge transfer, Age diversity, Humility, Trust, Competence, Warmth

Paper type Research paper

Introduction

The aging population, increased retirement ages and other societal changes have contributed to unprecedented levels of age diversity within the workplace. Consequently, younger and older workers (YWs and OWs, respectively) are working alongside one another more frequently than ever before (Fasbender and Gerpott, 2022). With individuals of different ages possessing unique and oftentimes complementary knowledge, skills and abilities (KSAs), this reality has the potential to create significant competitive advantages for organizations (Scheuer, 2017; Scheuer and Loughlin, 2021; van Knippenberg *et al.*, 2004).

However, these benefits can be realized only if the differing KSAs are appropriately shared *and* used via a process known as knowledge transfer (KT; Burmeister *et al.*, 2020; Dietz *et al.*, 2022; Fasbender and Gerpott, 2022; Szulanski, 1996). Conversely, when KT is absent or unsuccessful, work is inhibited, preventing organizations from capitalizing on the benefits of age diversity and even risking the potential negative outcomes associated with age diversity (i.e. employee turnover, absenteeism, dissatisfaction, negative conflict and reduced productivity; AARP, 2016; Chartered Institute of Personnel and Development, 2014;

van Dijk *et al.*, 2012). Moreover, understanding how to effectively facilitate the exchange and utilization of knowledge among YWs and OWs has become even more critical for the success and sustainability of organizations around the globe (Burmeister *et al.*, 2018, 2020; Fasbender and Gerpott, 2021, 2022; Morrow and Tappe, 2022). This is especially relevant given the surge in employment volatility, particularly among the youngest and oldest segments of workers (Wittenberg-Cox, 2021).

Despite the importance of KT in YW/OW dyads, practitioners and scholars have struggled with knowing how best to facilitate successful exchanges among these two age groups (Fasbender and Gerpott, 2022; Schneid *et al.*, 2016). Although advancements have been made in recent years (Boittin and Theys, 2014; Burmeister *et al.*, 2020; Gerpott *et al.*, 2021; Fasbender and Gerpott, 2022; Prelog *et al.*, 2019; Wang *et al.*, 2017; Wang *et al.*, 2022), Wang *et al.* (2017) stressed that more nuanced research on the conditions of age-diverse KT and the interrelations among them would be valuable.

Our qualitative study offers some much-needed insight. Using Braun and Clarke's (2006) reflexive style of thematic analysis, we explore how KT is experienced in YW/OW dyads. Specifically, we examine the following research question: How does the nature of the interactions between YWs and OWs impact successful KT?

In examining how KT unfolds in these dyads, our study exposes new inner workings of this process, which is of value to knowledge management (KM) researchers and practitioners (Burmeister *et al.*, 2015; Kwan and Cheung, 2006). Moreover, our study responds to calls for research providing a more "nuanced view on the relationship between trust and knowledge transfers" (Burmeister *et al.*, 2015, p. 751) by showing how different bases for trust/distrust (Ford, 2004) are manifested during the KT process. This is important and timely, given the complexity, multidimensionality (Ford, 2004) and utility of the construct of trust, especially in age-diverse contexts (Scheuer and Loughlin, 2018). Further, this study contributes to the theory on workplace age diversity by examining the *interactions* between workers of different ages, which remains a critical gap in the literature (Burmeister *et al.*, 2020; Scheuer, 2017; Walter and Scheibe, 2013; Zacher *et al.*, 2015). Practically speaking, the present work offers organizations insights for achieving KT success in YW/OW dyads, allowing them to capitalize on the age diversity in their workplaces.

Literature review

In the following section, we review the KT process and theoretical lenses (social exchange theory [SET] and exchange theories of aging) as they pertain to the context of KT in YW/OW dyads. Given the ontological approach of this research, the literature is not used to formulate hypotheses; rather, it is used to provide insights into our research question.

The knowledge transfer process

Szulanski (1996) refers to KT as "dyadic exchanges of organizational knowledge between a source and a recipient unit in which the identity of the recipient matters" (p. 28). A key element is the extent to which the transferred knowledge is integrated successfully into the new context (Burmeister *et al.*, 2015; Chang *et al.*, 2012). Existing KT process models, which differ slightly from one to the next (Kwan and Cheung, 2006; Szulanski, 1996), generally present three broad categories: before (all events that lead to the decision or attempt to initiate KT), during (the resource flow between the knowledge sender and recipient) and after (incorporating the transferred knowledge and achieving satisfactory results) (Burmeister *et al.*, 2015). These are the three phases of the KT process used for review in our study.

To gain a comprehensive view, we broadened our examination of KT by considering processes associated with both its successes and its failures. This involves knowledge

withholding (knowledge hiding or knowledge hoarding: Connelly *et al.*, 2012), disengagement from knowledge-sharing (Ford *et al.*, 2015), and partial knowledge-sharing (Ford and Staples, 2010). KT can also occur at a number of levels (e.g. institutional, organizational, group and dyadic). Focusing on the dyadic level allowed for a detailed examination of YWs' and OWs' perceptions and understandings of the KT process.

Social exchange theory and exchange theory of aging

SET has become one of the most commonly drawn-upon theories for understanding the KT process (Liang *et al.*, 2008; Watson and Hewett, 2006) and knowledge-sharing behavior and intentions (Fasbender and Gerpott, 2022; Wang *et al.*, 2015). Homans (1961) initially defined social exchange as "the exchange of activity, tangible or intangible, and more or less rewarding or costly, between at least two persons" (p. 13). His work explained that behavior is reinforced bidirectionally in dyadic relationships (Cook and Rice, 2006). Later, Blau (1964) framed his work on social exchange in terms of rewards and costs being anticipated alongside concepts of balance and power. Blau's (1964) stance indicated that exchange partners would experience a felt obligation to bring exchange relationships back into balance through norms of reciprocity. This recognition that dyads involve two interacting parties suggests that exploring the connection between social exchange and KT may be an important step toward facilitating productive working relationships.

SET is a particularly useful theoretical framework for examining KT between YWs/OWs because it helps explain why individuals might engage in potentially costly cooperative behaviors. There are numerous potential risks associated with age and KT (e.g. employability, employment security, promotion, knowledge misuse and/or risk of losing status or face; Fasbender and Gerpott, 2022; Raemdonck *et al.*, 2015). James Dowd (1975) expanded on SET with the exchange theory of aging, addressing a perceived loss of status and power associated with age. According to this theory, older people are more likely to experience imbalanced social exchanges because resources like health, status and income may decline with age (Wan and Antonucci, 2016), leaving them in an unfavorable position. More recently, the theory has been amended to suggest that individuals' exchange assessments are shaped by personal circumstances (Wan and Antonucci, 2016). This perspective alleviates imbalances often disadvantaging older individuals by accounting for resources accumulated from OWs' elevated positions, tenure and/or experience that may be exchanged with YWs within the workplace.

An extension to these exchange theories of aging is the "development stake" hypothesis (Bengtson and Kuypers, 1971), which argues that older individuals have enhanced investment in relaying values and norms they have acquired over time to younger generations. This indicates that older individuals are more likely to emphasize and reward personal connections that cultivate meaningful experiences (Wan and Antonucci, 2016), adopting conflict avoidance strategies that optimize positive social exchanges (Carstensen *et al.*, 2003). Whereas younger individuals seek to establish independence by building their own contributions (Wan and Antonucci, 2016; Bengtson and Kuypers, 1971). Thus, from a theoretical perspective, older workers may have more motivation to engage in KT; However, depending on the younger worker's perspective of the older worker's available resources for exchange, they may have an advantage or be disadvantaged. These distinctions in OW/YW preferences and motivations were similarly reflected in Burmeister *et al.* (2022), Fasbender *et al.* (2021) and Fasbender and Gerpott's (2022) work on age-diverse KT (as discussed below). All were useful in framing our examination of KT in these dyads.

Knowledge transfer in younger/older worker dyads

Research shows that YWs/OWs tend to possess unique and oftentimes complementary KSAs (see Table 1). When YWs and OWs engage in KT, they can capitalize on this wide

Table 1	Traditionally positive characteristics of younger and older workers	
Younger workers		*Older workers*
Creative		Disciplined
Adaptable		Committed
Technologically savvy		Strong interpersonal skills
Focus on speed and efficiency		Attention to detail
Skilled at multitasking		Linear work style
Increased education/up-to-date knowledge		Historical knowledge of the company

Notes: Characteristics listed above are drawn from Ng and Parry (2016), Scheuer and Loughlin (2021), Tonelli *et al.* (2020), US Department of Education (2016) and Walter and Scheibe (2013)
Source: Table by authors

array of KSAs and enhance their performance potential (Fasbender and Gerpott, 2022; Guillaume *et al.*, 2017; Scheuer and Loughlin, 2021; van Knippenberg *et al.*, 2004). KT can also contribute to more thorough information processing as workers reconcile differing ideas and perspectives. This can enhance decision-making capabilities (van Knippenberg *et al.*, 2004) and overall business success (Fasbender and Gerpott, 2022).

Despite the potential benefits of KT in age-diverse contexts, its impact is contingent on underlying conditions of the exchange (Dietz *et al.*, 2022; Fasbender and Gerpott, 2022; Levine and Prietula, 2012), which recent research has begun to examine. For example, in their investigation of the motivational benefits of KT for YWs/OWs, Burmeister *et al.* (2020) demonstrated that receiving knowledge from coworkers is more closely aligned with YWs' priorities while having coworkers receive one's knowledge is more closely aligned with OWs' goals. Also adopting a motivational perspective, Fasbender *et al.* (2021) found that, while generativity striving was important for knowledge-sharing behavior of both age groups, development striving was a more motivating factor for YWs. Later, Fasbender and Gerpott (2022) developed a conceptual model of age-diverse KT, showing how current and future status (i.e. prestige, respect and esteem provided by others) may influence YWs/ OWs knowledge-sharing behaviors.

Beyond motivational factors, in their empirical study on intergenerational KT to YWs, Wang *et al.* (2022) found that absorptive capacity, defined as individuals' ability to understand, absorb and apply new knowledge to achieve their work objectives, can strengthen the relationship between intergenerational KT and innovative work behaviors. A 2017 study by Wang *et al.* demonstrated that intergenerational supportive climate, top management support, and organizational institution support were also important factors for intergenerational KT. Based on a sample of 202 employees from six Slovenian companies, Prelog *et al.* (2019) showed that YWs (up to 35 years) felt the most discriminated against due to their age when compared to older age groups but were also the most motivated to share knowledge.

Despite these earlier contributions, given the scarcity of research in this area, it remains unclear whether other conditions of KT in YW/OW dyads may exist, and this bears further exploration.

Trust, competence and humility as conditions of knowledge transfer in younger/ older worker dyads

The ways that workers trust one another may impact the effectiveness of KT in YW/OW dyads (Ford, 2004; Moein and Pålhed, 2015). Trust has been defined in many ways in the literature. Common features include the expectations or beliefs regarding the benevolent intentions or behavior of another party and a willingness to be vulnerable (to assume risk) with the other party (Mayer *et al.*, 1995; Bhattacharya *et al.*, 1998; Rousseau *et al.*, 1998). Trust can be developed in a variety of ways, such as calculus, cognition, economics,

identification, knowledge or relational (Ford, 2004, for summary). When assessed alongside distrust, we take the perspective of Lewicki *et al.* (1998) and McKnight and Chervany (2001) that these are separate but related constructs. Both involve expectations around another's conduct; Trust involves positive expectations, such as hope, confidence and assurance, whereas distrust involves negative expectations, such as suspicion, wariness and fear (McKnight and Chervany, 2001).

Individual characteristics may also factor into the process of KT between YWs/OWs (Ellwart *et al.*, 2013). According to Fiske *et al.* (2002), people seek to understand another's capability and intent, which ultimately indicates their competence and warmth. Future interactions will depend on the evaluation of these characteristics and inform the resources they will, respectively, choose to exchange (Porath *et al.*, 2015). Situated within the warmth dimension is humility, defined as the restraint of egotism and self-focus (Davis *et al.*, 2011, 2015). Humble knowledge inquiry and responses have been theorized as being an important success factor for KT in dyadic relationships (Anand *et al.*, 2019). Humble inquiry is "the fine art of drawing someone out, of asking questions to which you do not know the answer, of building a relationship based on curiosity and interest in the other person" (Schein, 2013, p. 1). Humble response, on the other hand, involves the knowledge holder responding and sharing knowledge with a welcoming and unpretentious attitude, even when vested with authority or power (Anand *et al.*, 2019; Leach and Ajibade, 2016).

Our research examines these conditions in the KT within OW/YW dyads who engage in interdependent tasks in the workplace. Specifically, we elucidate how trust, distrust and the individual characteristics of competence and humility may be key factors for successful KT between YWs and OWs.

Methodology

Participants

Following Braun and Clarke's (2013) recommendations, we used a purposive sampling strategy (Patton, 2014) involving the selection of participants on the basis that they will be able to provide information-rich data to analyze. For example, diversity is more relevant for interdependent tasks (i.e. tasks that are greatly affected by another's work; Kearney and Gebert, 2009; Morgeson and Humphrey, 2006) and when it is noticeable to the individuals involved (Thatcher and Patel, 2012; van Dijk *et al.*, 2012). To account for this, we disseminated a prescreening questionnaire to the researchers' networks, only inviting workers with recent experience working on an interdependent task with someone who was noticeably younger or older than themselves.

We interviewed 40 participants in total: 20 self-identified as OWs (mean age = 56 years), and the other 20 self-identified as YWs (mean age = 25 years). The colleagues whom the participants discussed in their critical incidents were at least 13 years apart in age (widest age gap was 37 years). Further, 35% of participants identified as female, 73% had at least a bachelor's degree and 63% were of a nonmanagerial job rank. See Supplemental Material A for further details. We drew participants from a variety of industries/companies across the USA; half worked in a "blue-collar" (BC) industry (such as retail, printing services, sign production and installation), and the other half in a "white-collar" (WC) industry (finance and accounting industries, academics, sales representatives, business consultants, hospital administrators and senior executives).

Qualitative research tends to use smaller samples than quantitative research (Braun and Clarke, 2013). This allows researchers to capture the complexity and nuances contained within the data (Braun and Clarke, 2016). While there are no set rules for sample size in qualitative inquiry, a sample size of 15–30 interviews is common in this kind of research (Braun and Clarke, 2013). Saturation, or the point at which additional data fails to generate new information, also informs sample size determination (Bryman *et al.*, 2011). In our case,

this occurred after analysis of 14 interviews from the BC sample. To ensure data convergence, we interviewed six additional BC workers, along with 20 workers from an additional sample of WC workers.

The interview process

Our method of data collection involved semistructured interviews (Fontana and Frey, 2005) following a critical incident technique (Flanagan, 1954). This involves collecting observed incidents of special significance to solve practical problems and/or develop broad psychological principles (Flanagan, 1954). The critical incident technique has been used in similar research contexts. For example, Durand (2016) examined KT in mergers and acquisitions to find nuances previously missed by researchers. Similarly, Nissen *et al.* (2014) used the critical incident technique to examine KT within different forms of interactions, and Burmeister *et al.* (2015) examined critical incidents to understand KT from a repatriate's perspective. The critical incident technique enables a more in-depth examination of factors associated with successes and failures and aids in the sharing of implicit knowledge between the interviewee and interviewer (Hanson and Brophy, 2012).

In our case, this technique allowed us to capture field data that would be most likely to reveal the intricacies of the KT process in YW/OW dyads. Participants were asked to describe incidents in which they:

■ worked on an interdependent task with a colleague who was noticeably older or younger; and

■ whether the outcome was successful or unsuccessful (or an example of each, if they were willing/able).

This was followed by probing questions, in which participants were asked to elaborate on specific areas that were of interest to the study. Interviews were recorded and lasted 40 min to over an hour. The interviews were transcribed using a professional transcription service.

Analytical approach

To analyze the data, we drew upon Braun and Clark's (2006) reflexive thematic analysis. This style seeks to identify and interpret patterns of meaning from a data set and has multiple iterations (Braun and Clarke, 2021). In our case, the analysis was inductive (King and Brooks, 2018). The theories discussed throughout the paper were drawn upon as analysis unfolds (rather than a priori) as a means of grounding our findings within the existing literature. Coding was "open and organic, with no use of any coding framework" (Braun and Clarke, 2021, p. 7). While codes were descriptive in that they conveyed the participants' own framing and meaning on issues, when interpreting the themes, we moved "beyond what individual participants reported by clustering common ideas from multiple individuals in an attempt to most accurately represent the data at a conceptual level" (McNally, 2021, p. 37). This particular iteration of thematic analysis was appropriate, given the focus of our research is exploring the inner workings of KT through YWs'/OWs' "lived experience, sense-making, views, needs, practices and so on" (Braun and Clarke, 2021 p. 11).

Following this approach, the specific steps of thematic analysis were conducted as follows:

■ familiarization with the data;

■ generating initial codes from the data and starting to organize it into meaningful groups;

■ searching for themes;

■ reviewing themes;

- defining and naming themes; and

- producing the report (Braun and Clarke, 2006, 2013).

See Supplemental Material B for thematic analysis coding template. As recommended by Clarke and Braun (2013), these steps were not treated as a linear model; rather, analysis was a recursive and collaborative process.

Interrater reliability or any sort of "counting" or quantification of the data (e.g. calculation of probabilities) is not appropriate for reflexive style thematic analysis since interview content and the themes generated in the analysis depend on the (embodied) presence of the researcher (Braun and Clarke, 2013; Yardley, 2008). Additionally, Braun and Clarke's (2013) reflexive style of thematic analysis welcomes multiple realities through its emphasis on context, whereas reliability (and alongside it, replicability) is "rooted in a realist view of a single external reality knowable through language" (Seale, 1999, p. 41).

The above said measures were taken to support the "trustworthiness" and transferability of our investigation (Braun and Clarke, 2013; McLeod, 2011). Key themes were triangulated through iterative discussions among multiple researchers. Member checking was also conducted, whereby the ideas expressed in the interviews were discussed with the participants to examine the authenticity of what was produced (Braun and Clarke, 2013). Describing the demographic and contextual details of our study, along with evidence of data convergence across two contexts (BC and WC), offers additional support for the transferability of our findings. Finally, we adhered to the 20 potential questions outlined by Braun and Clarke (regarding transcription, coding, analysis, written report and overall research process: 2021) to guide overall assessment of thematic analysis research quality.

Results

The thematic analysis led to the identification of four themes:

1. perceived benefits versus costs of KT;

2. bases of trust/distrust in YW/OW dyads;

3. competence displayed by YWs/OWs; and

4. humility displayed by YWs/OWs.

The interrelationships of these themes are illustrated in our KT process model in younger/ older worker dyads (KT-YOD) (see Figure 1). The model shows that, through different combinations of competence and humility, KT success is experienced either directly (by YWs/OWs weighing the perceived benefits versus costs) and/or indirectly (through different bases of trust/distrust perceived within their dyads). In the sections to follow, we discuss the various components of this model. Illustrative examples are presented in Supplemental Material C.

Perceived benefits versus costs of knowledge transfer

As SET suggests, when describing their critical incidents, YWs and OWs indicated that they weighed benefits and costs of KT to determine whether they would take part in such an exchange and/or put forth the necessary effort for it to be successful. See Table 2 for perceived benefits/costs of KT discussed in the interviews and Supplemental Material B for further details.

If the perceived benefits outweighed the perceived costs, the worker in question engaged in KT and the associated behaviors necessary for it to be successful. For example, three WC interviewees (1, 2 and 10; two older and one younger) had experiences where the

Figure 1 Knowledge transfer process model in younger/older worker dyads (KT-YOD)

Source: Figure by authors
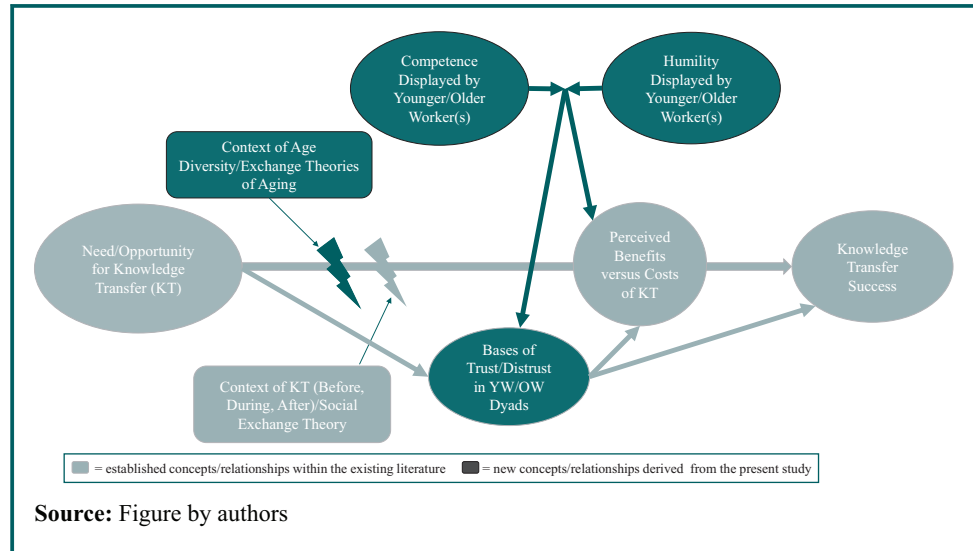
younger worker in the dyad realized that their personal ambition (a benefit) would follow from positive group accomplishment given successful KT. Similar patterns emerged in the BC sample (e.g. YW 14):

I think he saw the importance for the overall benefit of me learning some of this stuff. I think that was the big motivating factor because realistically anything that we could learn to better understand the machines and the production schedule and everything only made us better moving forward on the projects that we were sending back to him. I think he benefited in the long run from what I learned.

Pressures, such as the felt obligation to reciprocate positive exchanges (Blau, 1964), also played a role in the benefit versus cost assessment. For example, in response to his older colleague taking the time to train him on technical skills, a YW felt he needed to return the favor by working harder to meet the quality standards set by the OW: "He wants everything

Table 2 Perceived benefits and costs of knowledge transfer from interviews

Benefits	Costs
Potential of increased task achievement	Potentially losing credit for work
Increased efficiency and fewer mistakes	Employment security risks
Greater responsibility and autonomy	Misuse of knowledge
Improved interpersonal relationships	Employability risk (acute for older workers)
Increased customer satisfaction.	Embarrassment if shared knowledge is easily dismissed or appears time is
Gratification from contributing to coworkers' development	wasted
Increased fulfillment and purpose	Emotional discomfort and potentially harming interpersonal relationships
Increased career opportunity	Becoming less valuable
Potential monetary benefit	Loss of responsibility
Positive feedback from stakeholders	Making mistakes
Overall better work experience	Fear of crossing boundaries
Increased competence	Fear of coming across as "incompetent"
	Failure of a new idea

Note: See Supplemental Materials B for more details
Source: Table by authors

to be museum quality, so we try our very best to give the client as perfect a sign as possible" (BC interview 11). Here, engaging in KT was perceived as beneficial for both parties; the recipient had the opportunity to relieve his feelings of indebtedness, and the provider gained trust that this contribution would be reciprocated.

Bases of trust/distrust in younger/older worker dyads

Consistent with the KT literature (Ford, 2004; Moein and Pålhed, 2015), when *trust* was present within the dyads, YWs/OWs were more willing to solicit, share, and/or use each other's knowledge, and they were more likely to experience KT success in turn. By contrast, *distrust* appeared to inhibit KT success by obstructing one or more phases of the KT process. Trust and distrust also impacted the KT process indirectly through enhancing or mitigating the perceived benefits and costs of KT.

Different bases of trust (Ford, 2004) emerged depending on the stage of the KT process reported. Early in the KT process, cognition-based trust was more prevalent. This was visible as first impressions provided cues about the potential for an exchange to be beneficial (or costly). These first impressions were often triggered by positive or negative age-based stereotypes linked to competence and/or humility (e.g. OW wisdom and YW technological proficiency or OW resistance to change and YW less developed skills and/or work ethic, respectively; Ng and Feldman, 2012; Raymer *et al.*, 2017). As the KT process progressed, or in the case of repeated exchanges among the same workers, relational trust and knowledge-based trust developed. This permitted the formation of more accurate judgments of YWs'/OWs' competence and humility based on workers' actual behaviors. This observation is exemplified in BC 3 when the YW commented:

> At first he was probably a little skeptical as to whether or not I was going to be able to help him out in this situation[...]. Then me telling him I was going to be able to do it and him believing that I would be able to fulfill my side of the production process for him to be able to complete this.

There were also noticeable age-related distinctions among the different bases of trust. For example, YWs' inclination to share their knowledge depended on whether they believed it would contribute or detract from their future career opportunities, an observation that mirrors findings from Burmeister and Deller (2017), Burmeister *et al.* (2020) and Fasbender and Gerpott (2022). This perception appeared to derive from economics-based trust. In contrast, OWs' KT behaviors were driven less by potential career advancement. Instead, they were rooted in the generativity motive of contributing to YWs' professional development and the desire to forge positive, emotionally meaningful relationships (Burmeister and Deller, 2017; Burmeister *et al.*, 2020; Fasbender and Gerpott, 2022; Wan and Antonucci, 2016). This perception grew through identification-based trust. Similarly, OWs had greater concerns over job insecurity, fearing that they may become replaceable by the younger generation if they share all their knowledge (Fasbender and Gerpott, 2022). This perception appeared to reflect calculus-based distrust and, subsequently, detracted from KT.

Competence and humility displayed in younger/older workers

Both YWs and OWs reported in their interviews on the pivotal role of competence and humility in the KT process (see Table 3 for indicators of competence and humility discussed in the interviews and Supplemental Material B for further details). Perceived benefits or costs of KT, along with perceptions of trust/distrust, were calculated in response to workers' displays and/or attributions of competence and/or humility in the dyads. Age-based stereotypes/biases (Cuddy and Fiske, 2002; Dowd, 1975; Tresh *et al.*, 2019; Ng and Feldman, 2012) were linked to YWs'/OWs' competence and humility. Further, they informed the anticipated benefits and costs of KT via forming preconceived expectations of how the exchange would proceed.

Generally, competence and/or humility in YW/OW dyads increased perceptions of KT benefits and trust, whereas dyads lacking in these qualities perceived more KT costs and/or distrust. Further, important nuances to these relationships were observed, depending on the particular arrangement of attributes in a given dyad. Theoretically, there are 16 possible combinations of competence and humility in YW/OW dyads, assuming each quality may be either present or absent for each worker (see Table 4). Our results suggest that the experience of the KT process depends on which of these combinations is manifested within the dyad.

While successful KT among YWs and OWs who possess both characteristics (i.e. Combination #1) is apparent, success is less certain when one or both employee lacks either characteristic. However, successful KT experiences still remain possible in the absence of these qualities, especially when humility is still demonstrated (see Figure 2). Our findings illustrate how this occurs for YWs and OWs, respectively.

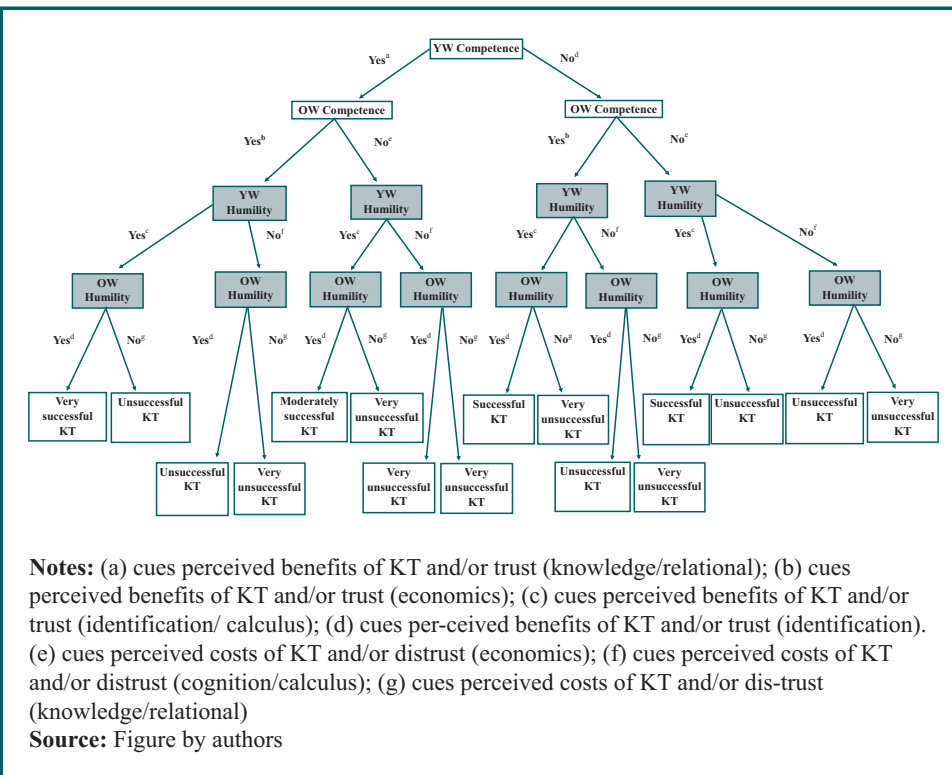| Table 3	Indicators of competence and humility from interviews
Competence	*Humility*
Attention to detail	Acceptance of others
Preparedness	Openness
Well-reasoned and/or supported ideas/arguments	Acknowledgment of one's own shortcomings
Business acumen	Empathy
Capability	Others-focused
Education	Friendliness (warmth)
Conscientiousness	Honesty
Critical thinking skills	Display of partnership mentality
Dependability/work ethic	
Diligence	Limited ego
Discipline	
Experience/knowledge/skill	
Professional	
background/work history	

Note: See Supplemental Materials B for more details
Source: Table by authors

Table 4	Possible combinations of competence and humility in younger worker/older worker (YW/OW) dyads				
Combination #	YW competence	OW competence	YW humility	OW humility	KT experience
1	●	●	●	●	Very successful
2	○	●	●	●	Successful
3	○	○	●	●	Successful
4	●	○	●	●	Moderately Successful
5	●	●	●	○	Unsuccessful
6	●	●	○	●	Unsuccessful
7	○	●	○	●	Unsuccessful
8	○	○	●	○	Unsuccessful
9	○	○	○	●	Unsuccessful
10	●	●	○	○	Very unsuccessful
11	●	○	●	○	Very unsuccessful
12	●	○	○	●	Very unsuccessful
13	●	○	○	○	Very unsuccessful
14	○	●	●	○	Very unsuccessful
15	○	●	○	○	Very unsuccessful
16	○	○	○	○	Very unsuccessful

Notes: ○ = quality absent; ● = quality displayed
Source: Table by authors

Figure 2 Humility as a necessary condition and competence as an insufficient condition of successful knowledge transfer (KT)

Notes: (a) cues perceived benefits of KT and/or trust (knowledge/relational); (b) cues perceived benefits of KT and/or trust (economics); (c) cues perceived benefits of KT and/or trust (identification/ calculus); (d) cues per-ceived benefits of KT and/or trust (identification). (e) cues perceived costs of KT and/or distrust (economics); (f) cues perceived costs of KT and/or distrust (cognition/calculus); (g) cues perceived costs of KT and/or dis-trust (knowledge/relational)
Source: Figure by authors

When humility was displayed by YWs (even in the absence of competence), it lessened the perceived costs of KT from older colleagues and cued mutual trust (particularly identification-based and calculus-based trust); this enabled KT success. This relationship was reflected by BC 1 when the OW indicated:

> If he were to run into any problems, he would ask questions. He wouldn't just assume and go forward and mess up [...] he was a kid so he still has to learn [...] we tried to help encourage him to get better [...] he always says thank you for helping him out.

When the YW was perceived as both humble and competent, greater respect for and confidence in the YW developed. This reduced perceived KT risk and extenuated the dyad's perceived KT benefits and trust (particularly knowledge-based, relational-based, and calculus-based trust), and thus enabled KT and subsequent task success. For example, in the following excerpt from WC 13, the YW enabled collaborative behaviors in his "lone wolf" older colleague through his kindness (humility) and trustworthiness (competence):

> [...] she is known around the office to be kind of a lone wolf [...] Whenever I came on board, I made it a point to come in as a leader and to be open and willing and be a team player as much as I can. I kind of went out of my way to build that relationship a year prior. She realized that I was trustworthy and that I was kind and I had the right intentions so she was open and willing to work with me a lot more than she would anyone else [...] We both respected each other's capabilities. So, we could listen and knew that we could learn from one another.

By contrast, when competence was present, but humility was absent, YWs were perceived as arrogant and this activated negative age stereotypes (via cognition-based trust) early in the KT process. It also extenuated the perceived costs of KT (via calculus-based distrust),

which then inhibited KT success. For example, in Interviews 9 (BC OW), 2 (WC OW) and 1 (WC OW), while the younger colleagues projected competence (through their degrees from elite universities and prior employment with prestigious companies), they lacked humility. This was bothersome to OWs, inhibited KT in the dyad via loss of trust and increased perceived KT costs. This ultimately detracted from KT success and future career success of YWs. For example, in WC 2, the OW commented:

> [...] her confidence in her ability far exceeded reality. But she didn't ask for advice, she basically said, here's what I'm going to do [...] she was not really able to get people to collaborate well with her, because she had this kind of arrogant attitude.

The absence of humility in YWs was a hindrance to building the framework necessary for successful KT between the dyads.

How OWs' characteristics affected KT, suggest both similarities and differences to their younger counterparts. When OWs, were perceived as competent (often due to extensive work experience), positive age-based stereotypes were activated, and they were considered a valued exchange partner. This emphasized KT benefits (via economics-based trust) and, in turn, increased the likelihood of its success. As the YW from BC 1 commented, "I just trusted that he knew what he was doing because he's been here a lot longer than I have. I basically listened to what he had to say."

However, as with YWs, when competence was paired with a lack of humility, negative age-based stereotypes were triggered, which restricted trust (knowledge-based and relational) and, in turn, decreased the likelihood of KT success in the dyad. These negative effects were exacerbated when competence was also lacking:

> [...] stubbornness [...] it's my way or the high way. She wasn't ready to admit that she didn't know how to do something and she wasn't willing to learn something new. If she didn't know how to do it, it just simply couldn't be done (BC YW 6).

OWs presenting humility lessened YWs' perceived KT costs, as it created comfort in seeking advice, trying out new ideas and even making mistakes. As the YW from BC 11 commented:

> We both bounce ideas off of each other and/or he helps me out with letting me know, 'Hey in this situation you probably could have done this a little better or hey try this next time.' He's very good at guiding me along but what I like about what he does is he lets me do it and if I do it wrong I know I did it wrong because it doesn't look good. I learn from my mistakes which is very helpful for me.

However, when there was humility but no competence, YWs were hesitant to fully trust their older colleagues despite identification-based trust being present. Unlike OWs, who viewed YWs' limitations as an opportunity to help develop their competencies, YWs perceived their OWs' lack of competence as an irregularity, which added to the risk/cost of KT. In these cases, economics-based trust superseded identification-based trust and detracted from the KT process. For example, in BC 14, the YW commented, "That's unfortunately the gray area you run into when you are friends with people that you work with and one of you is a supervisor [...] I really think that he lacked the qualities to be a leader."

Discussion

KT is a complex and important process, particularly in age-diverse contexts. Through reflexive thematic analysis of critical incident data gathered from 40 semistructured interviews with YW/OW, our study offers insights into this phenomenon with the development of the KT-YOD. The model suggests that, through different combinations of competence and humility, KT success is determined either directly (by YWs/OWs weighing the perceived benefits versus costs of KT) and/or indirectly (through different bases of

trust/distrust perceived within their dyads). Further, humility in dyads appears to be necessary for KT success, while competence was found to be insufficient for realizing KT success independently. We now turn to a discussion of the theoretical and practical implications of these findings.

Theoretical implications

Our research contributes to the KM, trust and age diversity literatures. First, regarding KM literature, although prior research offers insights into the conditions of KT identified in our analysis (e.g. competence; humility; trust/distrust; Anand *et al.*, 2019; Ford, 2004; Moein and Pålhed, 2015; Porath *et al.*, 2015) and/or related constructs (e.g. psychological safety; Gerpott *et al.*, 2021; contact quality; Burmeister *et al.*, 2021; absorptive capacity; Mehreen *et al.*, 2022; Wang *et al.*, 2022; intergenerational supportive climate; Wang *et al.*, 2017), it has not considered the complex interrelationships among these conditions. Our research examines interrelationships between these constructs, which is important for gaining a holistic understanding of the KT process (Wang *et al.*, 2017).

Additionally, much of this prior work and the limited research on age-diverse KT (Burmeister *et al.*, 2020; Fasbender and Gerpott, 2022; Fasbender *et al.*, 2021; Wang *et al.*, 2022;) has either been conceptual or quantitative/realist (Seale, 1999) in nature. In deriving empirically grounded themes through a qualitative, reflexive methodology (Braun and Clarke, 2021), our study advances KM research and practice by exposing new "inner workings" of KT (Burmeister *et al.*, 2015; Kwan and Cheung, 2006). Notably, our findings demonstrate that *humility is a necessary condition for KT success*, as it cues trust, bolsters perceived benefits and/or alleviates perceived costs of KT. This finding is substantiated by a growing body of research arguing that, despite both warmth and competence being important for successful exchanges (Porath and Gerbasi, 2015), warmth (e.g. humility) should be prioritized because it is "a conduit of influence: It facilitates trust and the communication and absorption of ideas" (Cuddy *et al.*, 2013, p. 4).

Research involving other diversity attributes (e.g. gender; Ebert *et al.*, 2014; Loughlin *et al.*, 2011; Woolley *et al.*, 2015) has highlighted the importance of humility for achieving successful exchanges; our study extends these relationships to include age-diverse contexts. Specifically, our findings suggest that competence without humility may indeed be wasted in YW/OW dyads, as it impedes the trust necessary for KT success.

Second, in highlighting how different bases of trust are experienced within YW/OW dyads during various phases of KT, our research offers a more "nuanced view on the relationship between trust and knowledge transfers" (Burmeister *et al.*, 2015, p. 751). Based on our analysis, two observations about trust can be made. Importantly, YWs' KT experience appears to be triggered more by economics-based trust, while OWs' experiences are tied more to identification- and calculus-based trust. These distinctions are substantiated by exchange theories of aging (Wan and Antonucci, 2016). In addition, this study supports the research that has found that YWs tend to be more motivated by exchanges contributing to their future career aspirations, and older individuals tend to be more focused on pursuing relationships and experiences that provide emotional meaning and are less susceptible to conflict and/or high risk (Fasbender and Gerpott, 2022; Burmeister and Deller, 2017; Burmeister *et al.*, 2020).

Next, our study suggests that attributions of YWs/OWs (initiated through cognition-based trust and activated by age-based stereotypes) may be amended over time through relational and knowledge-based trust to create new avenues for KT. Trust is clearly multifaceted, and it is insufficient to ascertain the presence of trust only at a single point in time, as has often been the case in prior research (Scheuer and Loughlin, 2018). Our findings challenge researchers to go a step further, differentiating among the bases of trust

to gain a clearer understanding of how trust is manifested (and/or lost) throughout the KT process and the consequences of these experiences.

Finally, our research addresses a critical gap in the age diversity literature (Walter and Scheibe, 2013; Zacher *et al.*, 2015; Scheuer, 2017) by offering insights into the *interactions* between workers of different ages. While prior work has drawn upon SET when investigating the KT process in age-diverse contexts (Fasbender and Gerpott, 2022), none, to our knowledge, have incorporated exchange theories of aging. Pervasive age stereotypes in the workplace reflect negatively upon OWs' competence, leading to perceptions of lower performance, ability, technical competence, motivation and productivity (Broadbridge, 2001; Cuddy and Fiske, 2002; Fiske *et al.*, 2002; Posthuma and Campion, 2009; Tresh *et al.*, 2019). These perceptions align with Dowd's (1975) exchange theory of aging, as the elderly are perceived to have fewer resources to offer in an exchange. Contrarily, warmth stereotypes generally situate OWs more favorably, presenting this group as being loyal, ethical and interpersonally skilled (Tonelli *et al.*, 2020; Tresh *et al.*, 2019; Warr and Pennington, 1993). Despite these stereotypes, the experiences and perceptions expressed in our interviews suggest that both YWs and OWs display (and fail to display) warmth (i.e. humility) and competence, depending on the situation and people involved. This, in turn, impacts KT. Arguments made by Wan and Antonucci (2016) and Fasbender and Gerpott (2022) that theories of aging provide a more useful framework for interpreting exchanges between younger/older individuals seem to be corroborated by the findings of this study. This is particularly relevant given these theories consider individual circumstances and allow for a more nuanced understanding of the dyadic interaction.

Practical implications

As Watson and Hewett (2006) point out, "knowledge management is not about creating and managing knowledge, but rather about managing people whose work depends on what they know and not necessarily about knowledge creation" (p. 146). In light of our finding on the critical role of competence and humility in the KT between YWs/OWs, it would be advisable for organizations to hire individuals who possess *both* sets of qualities. This could be achieved with behavioral assessments during the interview process.

Alternatively, organizations may offer training programs to help employees improve their competencies and to educate workers more on how to interact effectively with their younger/older colleagues with humility. For training on humility, we recommend drawing upon lessons from humble knowledge inquiry and the humble response approaches, based on Anand *et al.* (2019), Leach and Ajibade (2016) and Schein (2013). Training on how to deal with "stubborn" people, such as those summarized by Silny (2022), might also be beneficial (e.g. empathy, active listening, patience and strategically timing one's approach). To develop competencies, organizations can provide YWs/OWs with specialized training tailored to their particular needs in these areas. Based on our analysis of the interviews, company-specific skills training for YWs and advanced technology skills training for OWs could be desirable. Training in conflict management and giving and receiving feedback would also be beneficial to both age cohorts.

Ensuring employee's competence is adequately recognized could also be beneficial. Specific strategies for this might include instituting mentoring programs for YWs/OWs or highlighting employees' skills and prior achievements at the beginning of a project. This would increase employees' awareness of their colleagues' expertise, especially for those who are newer to the company. This may also help circumvent cognition-based distrust spurred by negative age stereotypes that typically arise early on in the KT process.

Leaders may also benefit from redesigning their reward structures to recognize the value of embodying both competence and humility. Organizations tend to prioritize more easily recognized competence over humility (Perry *et al.*, 2017; Tresh *et al.*, 2019) to the detriment

of OWs, whose meaningful contributions to the organization typically may come from conveying their expertise with humility (Abrams *et al.*, 2016; Cuddy *et al.*, 2013; Tonelli *et al.*, 2020). Importantly, the findings of our study suggest that both characteristics, but especially humility, are vital to KT success. Acknowledging this could alleviate the perceived threat of KT, which arises due to fear of individuals using shared knowledge for personal gain. It could also curtail employee retention problems, which can stem from devaluing OWs (Hennekam and Herrbach, 2015).

In addition, we recommend that leaders consider YWs/OWs' possessions of these traits when designing work groups. For example, based on our results, it would not be advisable to pair a competent OW who lacks humility with a competent YW, particularly when the YW is lower in the organizational hierarchy. Conversely, if this does occur, a supervisor should monitor this dyad and intervene if they notice KT is being inhibited due to the combination of traits. The same would be the case for situations where OWs are having difficulties working with YWs low in humility.

Limitations and directions for future research

Our study is subject to certain limitations that could be addressed in future research. One potential limitation was that themes were primarily based on individual perceptions of coworkers. However, these perceptions are what ultimately determine YWs/OWs willingness to engage in successful KT, making this approach somewhat necessary for our given research aims. Our chosen methodology (Braun and Clarke, 2006) also acknowledges the interpretative role of the researcher in the analytical process. Our findings represent one possible interpretation of the data based on several researchers' standpoints and experience. Other realities are certainly possible and available for exploration.

Following Braun and Clarke's (2013) recommendations, to generate an in-depth understanding of our focal topic and keep our analysis within a reasonable scope, we narrowed our sample to blue- and WC workers in the USA. It would be valuable to explore the full extent of our findings' generalizability, considering factors such as geographic region, culture, group size, other demographic variables (e.g. race, gender, socioeconomic status or disability; DiAngelo, 2021) and/or the intersectionality among multiple attributes.

Since cultural dimensions that are linked to age have been shown to influence knowledge-sharing behaviors (e.g. power distance; Ford and Chan, 2003; Lee, 2014), this may be a particularly fruitful area of inquiry. In particular, the cultural dimension of power distance may influence how YWs and OWs interact with one another in KT and may influence the requirements of humility. The USA is relatively low on power distance, as are (for example) Canada, the UK, most Western European countries and South Africa, whereas Mexico, Ukraine, Russia, China, India, United Arab Emirates and Nigeria are examples of higher power distance cultures (Hofstede, 2001; Hofstede Insights, 2023). To the extent that power distance plays a role in how humility interacts with competence for KT, the results should generalize to the former countries but might not generalize to the latter countries.

Future empirical research could also test the proposed relationships identified in this study, which influence KT success (i.e. the different combinations of competence and humility and/or the bases of trust). Using fuzzy-set qualitative comparative analysis would be a useful approach to such an analysis due to its focus on examining complex configurations of conditions in explaining outcomes (Scheuer *et al.*, 2022). Alternatively, one might engage in experimental research, manipulating different combinations of competence and humility.

Finally, an extension of the humility findings may be relevant for understanding another potential harm that narcissists may bring to organizations. Narcissistic leaders are associated with several costs to organizations (e.g. high turnover, workplace stress and toxic work environment; Sull *et al.*, 2022; O'Reilly *et al.*, 2019). Future research may also consider the costs of narcissism with respect to KT.

Conclusion

Age diversity in contemporary organizations is a double-edged sword, contributing to both positive and negative outcomes depending on how it is managed (Fasbender and Gerpott, 2022). Adopting a qualitative (reflexive) methodology, we developed a KT-YOD to refine the understanding of the KT process and allow organizations to capitalize on age diversity. In presenting this model, we establish linkages between KT, age and the bases of trust in YW/OW dyads. We have shown how different combinations of competence and humility are associated with KT success (versus failure) in these dyads, emphasizing the critical role of humility in this relationship.

President Theodore Roosevelt once said, "no one cares how much you know until they know how much you care." History provides anecdotal examples of humility being a primary behavior needed to engage in productive exchanges between YWs/OWs. There are numerous examples across the globe of the critical role of humility in successful KT between generations: Nelson Mandela in defeating apartheid in South Africa (O'Fallon, 2012), the crash of Asiana Airlines Flight 214 (Lee, 2014) or Mahatma Gandhi's work in India (Low *et al.*, 2013). More recently, as illustrated by Jacinda Ardern, Sanna Marin and Mette Frederiksen, the young Prime Ministers of New Zealand, Finland and Denmark, respectively (Papuc, 2023). Yet despite their numbers and notable successes in KT, minimal attention has been paid to humility in the KT literature, especially in age-diverse contexts.

In highlighting the critical contribution of humility in the KT between OWs/YWs, our study brings scholars and organizations a step closer toward unlocking the benefits of age diversity within their workplaces. Finally, our research highlights how age stereotypes, types of trust, and how these elements shift *over time* within dyadic interactions aid or hinder KT success.

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Supplementary material

The supplementary material for this article can be found online.

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