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You know what I mean! Idiosyncratic cueing supports older couples' communication efficiency

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Collaborating with others on cognitive tasks may allow individuals to perform better than when working alone. Therefore, researchers have argued that collaborative cognition may help individuals compensate for age-related cognitive decline. However, interacting with others also poses cognitive demands that become more challenging with aging. This study examined an interpersonal resource that can ease this quandary: familiar partners' spontaneous use of idiosyncratic cues in a communication-efficiency task. Idiosyncratic cues are references to the previously established, shared knowledge of familiar partners. The usage of such cues might alleviate cognitive load to a greater extent than references to generic knowledge. We therefore hypothesized that older adults' communication efficiency would be particularly enhanced with the use of idiosyncratic cues. Thirty-eight younger couples (76 individuals, M_{age} = 26.64 years) and forty older couples (80 individuals, M_{age} = 71.59 years) collaborated on a communication-efficiency task based on the game Taboo©. Partners explained target words to each other, using as few words as possible. A total of 1,763 cueing episodes were transcribed and content-coded for idiosyncratic cues (intraclass correlation = 0.91). Multilevel regression models showed that communication efficiency was enhanced with more idiosyncratic cueing in older, but not younger couples. However, the interaction effect between age group and idiosyncratic cueing was not statistically significant. When the analyses were repeated in a subsample of difficult target words, both age groups profited from idiosyncratic cueing. These results suggest that personally tailored cues based on shared knowledge may facilitate everyday communication if task demands are high—a resource situation that becomes more likely as people age.

KEYWORDS

collaborative cognition, interpersonal cueing, common ground, cognitive aging, idiosyncratic knowledge

Introduction

In everyday life, individuals frequently collaborate with others on cognitive tasks. It has thus been proposed that people interact with their social environment as "socially distributed cognitive systems" (Harris et al., 2014). People may combine their capacities and complement each other's skills and resources. For example, people increasingly

rely on their spouses for everyday memory tasks as they age (Harris et al., 2022) and experience such collaboration as helpful (Henkel and Kris, 2017). Everyday cognitive functioning may thus not only depend on people's individual cognitive capacities, but also on their social network. In old age, this dependency involves a dilemma, however: Collaborating may be especially valuable in domains of normative age-related losses such as memory function. Here, it may allow individuals to overcome age-related boundaries of their individual performance (Martin and Wight, 2008; Barnier et al., 2018; Harris et al., 2023). However, collaboration requires cognitive-mechanic resources (i.e., functions of basic information processing, such as working memory), and these resources also decrease with age (Salthouse, 2019; Tucker-Drob et al., 2019, 2022).

The present study investigated the use of idiosyncratic cues as a strategy that may alleviate this dilemma. Idiosyncratic cues are references to personal knowledge established in the pre-collaboration phase through dialogue or shared experiences. This idiosyncratic knowledge remains available well into late life (Harris et al., 2023), when people increasingly invest in a close and intimate network (Wrzus et al., 2013). Familiar partners share memories and negotiate meanings (Harris et al., 2023). This previously established common ground can allow familiar partners to use individually tailored cues in conversation. Such cues allow for efficient communication at low cognitive costs. For example, a woman's note to her husband to "call Anna" can be a frugal yet effective behavioral prompt, provided that the spouses share a previously established understanding about who Anna is (their daughter), and why one might want to call her (birthday). The aim of the present study was to test the effect of this strategy on younger and older couples' collaborative performance in a communication-efficiency task. The following section outlines the conceptual foundation of this work. It first explains why older adults may experience increased need for, but also increased costs of, collaboration. It then introduces the everyday strategy of idiosyncratic cueing a potentially effective means to alleviate this quandary.

Collaborating with others may offer important benefits in old age. Aging is associated with a decrease in cognitive-mechanic resources (i.e., functions of basic information processing like working memory, Salthouse, 2019; Tucker-Drob et al., 2019, 2022). According to developmental theories (e.g., Baltes and Baltes, 1990), compensating for such losses becomes particularly important in late life. As a means of compensation, people may collaborate with others (Martin and Wight, 2008). Across various cognitive tasks, research has shown that collaborating individuals' performance is typically superior to that of a solitary individual (Martin and Wight, 2008; Grysman et al., 2020; Harris et al., 2023). This benefit may be particularly valuable in areas of normative age-related losses, such as memory function. For example, close relationship partners can complement each other's episodic memory (e.g., recalling a past experience; Harris et al., 2014; Grysman et al., 2020). They may also support each other in the domain of semantic memory (e.g., reminding each other of facts or people's names; Harris et al., 2023; Zhang et al., 2021) or prospective memory tasks (such as remembering an upcoming appointment; Browning et al., 2018; Johansson et al., 2000).

At the same time, however, collaborating with others may become more demanding in late life. Collaboration also involves cognitive costs imposed by interaction requirements, such as monitoring the partner, processing incoming information, generating an appropriate response, and keeping it in mind until it is time to respond (Rajaram, 2011; Pickering and Garrod, 2021). These costs may contribute to collaborative inhibition, which describes the phenomenon that collaborating dyads typically fall short of their expected potential from their pooled, individual performance in memory tasks (for overviews, see Weldon and Bellinger, 1997; Rajaram et al., 2024). Collaborative inhibition may especially affect performance if people are working at the limit of their cognitive capacities—a resource situation that becomes increasingly likely for complex tasks as people age (Lindenberger et al., 2000; Hull et al., 2008; Lövdén et al., 2012). This may compromise the potential benefits of collaborating with others in late life. Accordingly, it has been argued that reducing the complex demands of an interaction may be especially supportive for older adults (Gagnon and Dixon, 2008; Harris et al., 2014; Zhang et al., 2021).

Interaction demands can be facilitated when collaborating with a familiar partner, as opposed to an unfamiliar individual (Harris et al., 2014; Zhang et al., 2021). However, this added potential among familiar partners may not always be tapped in collaboration (Harris et al., 2011). Instead, the benefits of working with a familiar partner depend on how much the collaborative task offers opportunities to use this potential and the partners' choice to do so (Wegner et al., 1991; Moreland et al., 1996). The current study focuses on a particular strategy that familiar dyads may use in conversation, namely using individually tailored, idiosyncratic references. This strategy can make communication more efficient and collaborative retrieval of information more reliant (Clark and Brennan, 1991; Harris et al., 2011). This effect will be referred to as the idiosyncrasy effect.

Communication requires identifying referents that work for both partners (Krauss and Fussell, 1990; Pickering and Garrod, 2021). This "grounding" allows people to use previously negotiated, frugal cues instead of complex elaborations (Clark and Brennan, 1991; Hupet and Chantraine, 1992). Grounding as the general negotiation of meaning is not unique to close relationships. It spontaneously emerges between interacting individuals, even in interactions at zero acquaintance, and is evident in cultural and subcultural practices, idioms, symbols, and signals (Clark and Brennan, 1991; Clark, 1996). Among familiar partners, however, common ground also includes idiosyncratic, specifically tailored knowledge derived from joint experiences or previous conversations (Clark, 1996; Clark and Brennan, 1991; Harris et al., 2014; Rajaram and Pereira-Pasarin, 2010). This shared idiosyncratic knowledge has been shown to facilitate conversations among familiar partners (Goodman and Ofshe, 1968; Planalp, 1993). Studies have documented that idiosyncratic references spontaneously emerge during collaborative reminiscence (Harris et al., 2013, 2019). In studies with younger adults, personally tailored cues generated either by the participants themselves or by their spouses were superior to generic cues in supporting autobiographical memory retrieval (Harris and O'Connor, 2022). This supports

the idea that idiosyncratic cueing may facilitate collaboration. The current study aimed to compare this effect between younger and older adults to test the hypothesis that idiosyncratic cueing may especially support communication efficiency in older, as compared to younger adults. The following section explains why idiosyncratic cueing should particularly support older adults' communication efficiency.

Idiosyncratic references may be particularly easy to process, both for the speaker and the listener. Idiosyncratic cues tap the interaction partners' overlapping, previously established knowledge, which is self-referential, well-organized, and relatively easy to retrieve from memory (Bower and Gilligan, 1979; Gurguryan et al., 2024; Mäntylä, 1986). Using such cues in collaboration may facilitate both message production (for the speaker) and message comprehension (for the listener), allowing for more efficient communication (Garrod and Pickering, 2007; Pickering and Garrod, 2021; Harris et al., 2023). Familiar knowledge is processed with less cognitive effort than novel information, as the latter requires more self-initiated processing (i.e., internal cueing without any contextual or environmental support; Craik, 2005; Gurguryan et al., 2024). Self-initiated processing, in turn, is particularly demanding for older adults (Craik, 2005; Angel et al., 2010). Idiosyncratic cues may also reduce cognitive load by minimizing the need for audience design, which pertains to the adjustment of utterances to the listener's knowledge of a given topic. Audience design can be a challenge in old age (Horton and Spieler, 2007). It relies on source memory (e.g., remembering with whom a given topic has already been discussed) and effortful, bottom-up perspective-taking (e.g., understanding that the partner lacks background information on a given topic). Both of these functions are subject to normative, age-related cognitive decline (Henry et al., 2013; Yoon and Stine-Morrow, 2019). In contrast, idiosyncratic cues do not require recruiting perspective-taking capacities or source memory. Instead, familiar speakers may simply recruit their own, individual knowledge. Doing so may even disregard the other person's knowledge and can still be adaptive if there is sufficient knowledge overlap between partners (Gigerenzer and Goldstein, 1996; Pickering and Garrod, 2004, 2021; Wu and Keysar, 2007). The idiosyncrasy effect may thus specifically alleviate some of the requirements of collaborating that become demanding in late life. The present study aimed to test the idiosyncrasy effect in younger and older couples by means of re-analyzing and complementing an existing dataset from a previous study (Rauers et al., 2011). In that initial study, younger and older couples completed a communication-efficiency paradigm based on the game Taboo©. The task models the everyday task of communicating an idea to another person. A previous study compared familiar couples with unfamiliar dyads (Rauers et al., 2011). The present study focused exclusively on the subsample of couples, with the intention of investigating the effect of idiosyncratic cueing on couples' performance. The task included target words with different degrees of everyday reference, which may differentially invite idiosyncratic cueing. The partners' cueing episodes were transcribed and content-coded to quantify how often the partners used idiosyncratic cues. It was predicted that age differences in the couples' performance are reduced if couples use idiosyncratic cues. In other words, the hypothesis was that older adults would profit more from idiosyncratic cues than younger adults.

Methods

Participants

The sample consisted of $N = 156$ people including 38 younger couples ($M = 26.64$ years of age; $SD = 2.77$) and 40 older couples ($M = 71.59$ years of age; $SD = 3.56$). Participants were recruited from the larger area of Berlin, Germany, using the participant pool of the institute, newspaper advertisements, and word of mouth. Inclusion criteria were fluency in German and a relationship duration of at least 6 months. The majority of the older couples (84%) and a smaller proportion of the younger couples (11%) were married, reflecting common demographics in Germany. The sample was well-educated, with 35 younger men (92%), 33 younger women (87%), 25 older men (63%), and 13 older women (33%) holding at least an Abitur degree (a German university entrance qualification). Each couple was paid 100 Euros for taking part in three sessions of the study. Ethics approval from the Max Planck Institute for Human Development was obtained before data collection.

Interpersonal cueing paradigm

The communication-efficiency task was based on the board game Taboo©. It required participants to explain target words (e.g., flea) to their partners, using as few words as possible. The partner's task was to guess the target word. To secure sufficient task difficulty, a list of "taboo words" could not be used (e.g., insect, small, jump, dog, circus). No time restriction was imposed.

Material and stimulus-selection pre-study

A total of $N = 2{,}688$ target words were selected from the official Taboo© game and four equal sets of 12 target words were created. The sets were stratified regarding morphology (single nouns vs. composite words), word length (number of letters), and frequency in the German language (as determined by the online dictionary canoonet.de). Additionally, the sets were stratified on the dimension of everyday-life relevance, as this may differentially invite idiosyncratic cueing based on references to the couple's shared lives. Everyday-life relevance was assessed in an independent word-rating pre-study with $N = 65$ partnered individuals from three adult age groups (20–31 years, 46–56 years, and 70–80 years of age). For each target word, participants in the pre-study responded to the question, "How much is this word a part of your or your partner's everyday life?" (from 1 = *not at all* to 10 = *very much*). Each target was rated at least 19 times by each of the three age groups. For the main study, target words were selected that had received homogeneously high or homogeneously low ratings (i.e., either below the 23rd, or above the 67th percentile, respectively)

across all three age groups. Each stimulus set included six words high on everyday-life relevance and six lower-scoring words.

Measures

Communication efficiency

The couples' cueing episodes were videotaped, transcribed by trained secretaries, and content-coded by four independent, trained coders. Fifty percent of the transcripts were coded by a second coder to determine inter-rater reliability. Communication efficiency was operationalized as the number of words needed to explain the target (intraclass correlation = 0.99; younger adults: range = 1–109; $M = 6.78$; between-person $SD = 2.75$; older adults: range = 1–104; $M = 12.42$, between-person $SD = 5.03$). The dependent variable (number of cue words used) was positively skewed when untransformed. Following recommendations by Tabachnick et al. (2014), a logarithmic transformation was applied to the dependent variable [log10(x)], which improved the variable distribution and the normality of the residual distribution.

Idiosyncratic cueing

Coders coded each trial (i.e., an individual cueing episode of a given person explaining a given target word) into distinct declarative segments or ways attempting to explain the target. These propositions will be referred to as cues (intraclass correlation = 0.99; younger adults: range = 1–23; $M = 1.96$, between-person $SD = 0.65$; older adults: range = 1–22; $M = 2.97$, between-person $SD = 0.96$). An example of a cue is "It grows in the garden." Each cue was then coded for idiosyncratic content. Cues were coded as idiosyncratic if they included a private name, occasion, routine, or experience (e.g., "Daniel bought one recently."). In contrast, less exclusive cues that used generic descriptions, public knowledge, or subcultural and local references were coded as common knowledge. For each trial, the ratio of idiosyncratic over total cues used was calculated to quantify the degree to which partners recruited idiosyncratic information in their cueing (intraclass correlation = 0.91; younger adults: range = 0–1, $M = 0.30$, between-person $SD = 0.15$; older adults: range = 0–1, $M = 0.32$, between-person $SD = 0.16$).

Procedure

The initial data collection took place in Berlin, Germany, from March 2006 to February 2007. The first author and a team of trained student assistants conducted the test sessions. Participants were informed about the study and provided written consent. Each couple completed 24 trials of the task, with each participant explaining 12 and guessing 12 of the target words. Sessions lasted 2.5 h on average. Sociodemographic variables were assessed in a separate session using paper-pencil questionnaires. All participants also took part in a third session in which the task was carried out with an unfamiliar person. Data from these additional interactions between unfamiliar persons are reported elsewhere (Rauers et al., 2011). The mean communication efficiency for each target word as observed among those unfamiliar dyads (where idiosyncratic cueing was not possible) was used as a proxy for target-word difficulty. In the present study, this proxy was used in a follow-up analysis testing the notion that idiosyncratic cueing also supports younger adults' performance if the task difficulty is high (see results).

Analyses

Analyses were based on data from all trials in which the target word had been correctly guessed by the partner ($N = 1{,}763$). Analyses were implemented in SAS 9.4 (SAS Institute Inc, 2013) for Windows, using the mixed procedure and the restricted maximum likelihood estimation method (PROC MIXED, REML). Multilevel modeling was used to account for dyadic repeated measurements (Kenny et al., 2020), predicting communication efficiency at a given trial (i.e., the number of words needed to explain a given target word). Degrees of freedom were adjusted according to the Kenward–Roger correction procedure to reduce the potential for a type I error (Littell et al., 2017). Random effects were included to account for interdependencies due to between-person and between-couples differences in performance. More specifically, the model contained trial-level variation (level 1) clustered within persons (level 2) clustered within couples (level 3) (Kenny et al., 2020). The number of words Y_{ick} needed by a given person i in couple c to complete a given target word k can be expressed as

$$Y_{ick} = \beta_0 + \beta_{1ic} + \varepsilon_{ick} \quad (1)$$

with $\varepsilon \sim N(0, \Sigma)$ so that Y_{ick} was predicted by the overall mean (β_0), a trial-wise variation from this mean (β_1), and residual error (ε). This error was assumed to be normally distributed with mean 0 and variance Σ, which is a diagonal matrix with variances differing across trials. For parsimony, no covariance was allowed between trials. At level 2, two variance components were included, $U1_i$ and $U1_c$. These represent the variance due to the explaining partner ($U1_i$), and that due to the couple ($U1_c$). The variances of these two random components at level 2 were assumed to be normally distributed with a mean of 0 and variance σ^2:

$$\beta_{1ic} = U_{1i} + U_{1c} \quad (2)$$

with $$U_{1i} \sim N(0, \sigma^2_{1i}); U_{1c} \sim N(0, \sigma^2_{1c}).$$

Next, fixed effects were entered to test our hypothesis that idiosyncratic cueing especially enhances older adults' communication efficiency. Predictor variables were the couple's age group (older coded 0 and younger coded 1), ratio of idiosyncratic cueing (grand-mean centered), and the interaction of age group and grand-mean centered idiosyncratic cueing. The analytic SAS code is documented in Supplementary material.

Transparency and openness

The measure of communication efficiency was also used in a previous publication (Rauers et al., 2011) to compare romantic

partners' communication efficiency with that between unfamiliar partners. The present study focused exclusively on the subsample of couples and aimed to test the idiosyncrasy effect among familiar partners. To this end, the existing dataset was complemented with additional content-coding of the couple's utterances. This study was not preregistered. The original data and analytic code are included in Supplementary material.

Results

The first analysis tested overall age differences in communication efficiency. Here, the number of words needed to explain target words (lg10-transformed) was predicted by the participants' age group (coded 0 = older, 1 = younger). As expected, older adults' performance in the collaborative communication-efficiency task was lower than younger adults' [estimate = −0.255, *SE* = 0.031, *t* = −8.25, *p* <0.001, CI = (−0.316, −0.193)]. Older adults used idiosyncratic cueing in 45% of the trials (*SD*: 19, range: 0–83%), and younger participants did so in 37% of the trials (*SD*: 17; range: 0–83%). A multilevel logistic regression analysis predicting idiosyncratic cueing (coded 0/1 for each trial) with participants' age group as predictor in SAS PROC GLIIMMIX confirmed that this difference was statistically reliable [log-odds ratio = 0.31, *t* = 3.21, (*df* = 1,761), *p* < 0.05]. Also as expected, communication efficiency was indeed enhanced in older adults the more they relied on idiosyncratic cueing [estimate −0.048, *SE* = 0.024, *t* = −1.97, *p* = 0.049, CI = (−0.09593, 0.0002)]. Re-transforming the estimated values into the original metric of required words to explain a target provided an estimate of the size of this effect. For older couples, exclusively relying on idiosyncratic cues implied saving 2.55 words per target (i.e., a performance gain of 24%), compared to exclusively using generic cues. In contrast, the effect of idiosyncratic cueing on communication efficiency was not significant in younger adults [estimate = 0.015, *SE* = 0.022, *p* = 0.502, *t* = 0.67, CI = (−0.028, 0.058)]. While this pattern is in line with our hypothesis, the statistical interaction between age group and idiosyncratic cueing did not reach significance in predicting communication efficiency, as shown in Table 1.

The effect of idiosyncratic cueing did not vary by gender [estimate for interaction gender* idiosyncratic cueing = 0.032, *SE* = 0.033, *t* = 0.97, *p* = 0.333, CI = (−0.032, 0.095)]. There was also no interaction between age group, gender, and idiosyncratic cueing in predicting communication efficiency [estimate = 0.032, *SE* = 0.065, *t* = 0.50, *p* = 0.617, CI = (−0.095, 0.160)].

A follow-up analysis investigated the role of task difficulty. This was done by repeating the analyses for the 25% most difficult words, as determined by the average communication efficiency for a given target among unfamiliar partners. In these difficult target words only (*n* = 428 trials), the effect of idiosyncratic cueing was significant for both age groups [younger adults: estimate = −0.099, *SE* = 0.047, *t* = −2.09, *p* = 0.038, CI = (−0.192, −0.006); older adults: estimate = −0.182, *SE* = 0.060, *t* = −3.02, *p* = 0.003, CI = (−0.300, −0.063)]. Again, the interaction of age group and idiosyncratic cueing was not significant [estimate = 0.083, *SE* = 0.075, *t* = 1.01, *p* = 0.271, CI = (−0.065, 0.231)].

Discussion

With aging, everyday cognition becomes increasingly dependent on collaborating with others. At the same time, collaborating also becomes more cognitively demanding with age. The present study tested the potential of idiosyncratic cueing, which familiar partners spontaneously use in conversation, to alleviate this quandary. Idiosyncratic cues are based on familiar partners' shared past experiences. This shared knowledge is readily available well into late adulthood and it has been suggested that it compensates for age-related losses in individual functioning (Barnier et al., 2018; Harris et al., 2023). Therefore, the current study proceeded from the notion that idiosyncratic cueing would allow older adults to partly compensate for age-related differences in performance in a collaborative communication-efficiency task.

Enhanced communication efficiency with more idiosyncratic cueing in older adults

As expected, there were overall age differences in performance: Younger couples outperformed older couples. However, older adults' performance was enhanced the more they relied on idiosyncratic cueing. This pattern is compatible with the notion that idiosyncratic references may serve as a compensatory resource in the face of aging-related cognitive losses (Harris et al., 2023). Using shared knowledge in conversation draws on cognitive pragmatics—resources that are less prone to decline with aging (Baltes et al., 1999; Salthouse, 2019; Tucker-Drob et al., 2019, 2022). In contrast, *building* such common ground during collaborative encoding and learning requires investment of cognitive-mechanic resources (for a review, see Wolfe et al., 2023). Scholars have therefore offered the viewpoint that in using previously established common ground with close relationship partners, older adults may "reap what they sowed" during their shared past (Barnier et al., 2014; Harris et al., 2014).

Despite the differential prediction patterns in both age groups (with idiosyncratic cueing predicting significantly better communication efficiency in older, but not younger couples), the interaction of age-group membership and use of idiosyncratic cueing in predicting communication efficiency was statistically not significant in our study. Together, this provides no evidence for the hypothesized age-differential effect. Additionally, follow-up analyses showed that younger adults' performance also profited from idiosyncratic cueing when particularly difficult targets had to be guessed. This underscores the potential of idiosyncratic cueing as a general compensatory strategy, irrespective of people's age: It may enhance communication efficiency if people face a difficult task—a resource situation that becomes more likely as people age.

Limitations and outlook

The current study had several strengths. It relied on a newly developed interpersonal cueing paradigm with word stimuli ranked high and low in terms of everyday-life relevance, based on an independent word-rating pre-study. The communication task

TABLE 1 Predicting communication efficiency by age group and idiosyncratic cueing.

Fixed effects	Estimate	*SE*	*t*	*p*	95% CI	
					LL	UL
Intercept	0.979	0.0216	45.33	<0.001	0.936	1.027
Age group	−0.255	0.031	−8.27	<0.001	−0.317	−0.194
Idiosyncratic cueing	−0.048	0.023	−2.02	0.044	−0.093	−0.001
Age group X Idiosyncratic cueing	0.061	0.033	1.88	0.061	−0.003	0.125
Covariate parameters	**Estimate**	***SE***	***z***	***p***	**95% CI**	
					LL	UL
Trial	0.074	0.003	28.31	<0.001	0.069	0.080
Person	0.006	0.002	2.98	0.001	0.004	0.014
Couple	0.012	0.003	3.79	<0.001	0.008	0.022

Multilevel model (1,763 trials) predicting communication efficiency (i.e., the number of words required until the partner guessed the target word, lg10-transformed to meet normality assumptions). Age group is coded 0 = older adult, 1 = younger adult. Idiosyncratic cueing is measured as the relative number of idiosyncratic cues over all cues used for this target word (grand-mean centered).

modeled the everyday task of conveying an idea to one's spouse, following the call for ecologically valid paradigms in research on collaborative cognition (Blumen et al., 2013). Furthermore, idiosyncratic cues and communication efficiency were content-coded with high reliability. However, some limitations should be noted. Although the communication task was designed to enhance ecological validity, it was more structured than everyday conversations. Replications using natural conversations (e.g., by using ambient recordings in the couples' daily lives) would be desirable. The sample was rather highly educated and culturally homogeneous. The findings may therefore not generalize to less educated samples or other cultures. Furthermore, the current investigation relied on a pre-existing dataset, which may have implied limited power to find the hypothesized age-differential idiosyncrasy effect. Using a pre-existing dataset highlights the importance of considering the possibility of historical effects in psychological research. For example, social media and technology might affect communication practices. Together, replications of the current study are desirable. Future research could also investigate modulating factors and boundary conditions of the idiosyncrasy effect. For example, it has been suggested that different types of relationships involve varying levels of proficiency in idiosyncratic cueing (Andersson and Ronnberg, 1997), depending on the amount of shared experiences and interpersonal knowledge overlap between the partners (Wu and Keysar, 2007).

Conclusion

This study investigated the idiosyncrasy effect—communication-efficiency gains when using privately shared information in cueing a familiar partner—in younger and older couples. The central hypothesis was that the idiosyncrasy effect would be stronger in older compared to younger adults who cue their romantic partner to guess a list of target words. Communication efficiency was enhanced in older but not younger adults, but this difference was not statistically reliable. Instead, gains emerged for both younger and older adults' performance when task difficulty was high. In essence, the present study demonstrates that using previously established knowledge in communication may facilitate collaborative cognition. It may shift the balance from costs toward gains in collaborating with others on various everyday cognitive tasks. In doing so, the strategy can support the potential of collaboration to extend everyday functioning beyond what individuals can achieve alone (Martin and Wight, 2008; Wolfe et al., 2023; Rajaram et al., 2024). An open route for future research pertains to additional benefits of idiosyncratic cueing, beyond cognitive performance. For example, tapping a shared reality in conversation may enhance interpersonal trust and validate feelings of togetherness (Rossignac-Milon et al., 2020). Such instantly rewarding, meaningful emotional experiences may be especially important for older adults (Carstensen et al., 1999; Carstensen and Reynolds, 2023).

Author's note

We thank Dulce Erdt and our student research assistants for their support in collecting the data for this project. Some of the ideas and data reported in this manuscript were presented orally at academic conferences. The original research data and analysis code are provided as Supplementary Files to this article.

Data availability statement

The dataset presented in this study can be found in the Supplementary material.

Ethics statement

The studies involving humans were approved by Ethics Committee of the Max Planck Institute for Human Development,

Berlin, Germany. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

AR: Investigation, Conceptualization, Data curation, Writing – review & editing, Formal analysis, Project administration, Writing – original draft. FS: Methodology, Writing – review & editing, Supervision, Conceptualization, Formal analysis. UL: Funding acquisition, Resources, Supervision, Formal analysis, Writing – review & editing, Methodology, Conceptualization. MR: Data curation, Project administration, Conceptualization, Supervision, Writing – review & editing, Resources, Funding acquisition.

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Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fdpys.2025.1649507/full#supplementary-material

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