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### Intrinsic Interpersonal Emotion Regulation Strategy Use and Effectiveness Across Adulthood: The Role of Interaction Partner Age

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One way older adults may be able to maintain emotional well-being despite declining in cognitive ability is through leveraging social resources for intrinsic interpersonal emotion regulation. Additionally, given their increased life experience, older adults might also be particularly well-suited to regulate the emotions of others. To examine age difference in use and effectiveness of intrinsic interpersonal emotion regulation, community adults (N = 290, aged 25–85 years) were prompted 6×/day for 10 days to report their emotional experience, use of intrinsic emotion regulation strategies (including capitalization, social sharing, coreappraisal, and reminiscing), and interaction partner age. Older age was associated with being less likely to engage in social sharing of negative emotions, and this effect was stable when controlling for negative emotion experience. Otherwise, there were no age differences in how often or how effectively people use intrinsic interpersonal emotion regulation. In terms of interaction partner age, older partner age was only associated with greater likelihood of using co-reappraisal and higher reports of negative emotion after social sharing. In summary, there was no strong evidence for the idea that interpersonal emotion regulation becomes more (or less) common or effective with age. However, though people may be less likely to share negative emotions and be seen as less effective partners for sharing these emotions later in life, older adults are preferable social partners for co-reappraisal potentially due to their life experience. Future work should explore motivational (i.e., attitudes toward negative emotions) and cultural (i.e., perceptions of roles and emotional abilities) mechanisms.

Keywords: interpersonal emotion regulation, adult lifespan, emotional well-being, experience sampling

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Even though older adults tend to decline in cognitive functioning, their emotional experience often improves with age (e.g., Carstensen et al., 2011; Charles et al., 2023). Older adults may be able to compensate for declining cognitive ability through utilizing other resources (e.g., social, experiential) to effectively regulate their emotions (Urry & Gross, 2010). As individuals age, they increasingly prioritize relationships with close others (Carstensen, 2006) and simultaneously experience more positive social outcomes (Luong et al., 2011). Accordingly, older adults may be more likely to draw on social resources to manage their emotions, that is, they may deploy intrinsic interpersonal emotion regulation strategies more often and more effectively than younger adults. This work seeks to further our understanding of the role that

social relationships play in maintaining emotional well-being throughout adulthood by investigating the role of intrinsic interpersonal emotion regulation as one potential mechanism. Therefore, this study first addresses how often and how effectively intrinsic interpersonal emotion regulation strategies get employed in daily life based on an individual's age. The present study utilizes an experience sampling approach to capture emotion regulation as it occurs in people's everyday life contexts.

Individuals may also generally become more proficient at knowing how best to manage emotions within a given situation due to increased wisdom and life experience (Blanchard-Fields, 2007). Consequently, older adults could be better equipped than younger

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adults to regulate the emotions of others (Niven, 2022). These regulatory skills could then lead others to seek out or turn to older adults for regulatory purposes more frequently than younger adults and could also manifest in more effective regulation when interpersonal emotion regulation is sought out from an older adult. In the present study, we therefore also investigate how age of social interaction partners predicts use and effectiveness of intrinsic interpersonal emotion regulation in daily life. The experience sampling approach of the present study allows us to capture emotion regulation with a variety of interaction partners in everyday life.

#### **Emotion and Emotion Regulation Across Adulthood**

As individuals age, they often show improved emotional experiences, evidenced by, for example, more frequent positive and less frequent negative emotions (Carstensen et al., 2011). It has been suggested that these improvements in emotional experience occur because older adults become more proficient at regulating their emotions (Blanchard-Fields, 2007). Effective emotion regulation, however, requires the use of cognitive resources (Ochsner & Gross, 2005) which decline as individuals age (Salthouse, 2012). A substantial body of research thus far has found that younger and older adults largely do not differ in which putatively adaptive or maladaptive intrapersonal strategies they use to regulate their emotions in daily life (Allen & Windsor, 2019; Benson et al., 2019; Eldesouky & English, 2018) or in how successfully they use these strategies in daily life (Livingstone & Isaacowitz, 2021) and when in standardized laboratory environments (Allen & Windsor, 2019; Brady et al., 2018; Isaacowitz, 2022). These results suggest that it is necessary to investigate different perspectives on how emotion regulation might contribute to well-being across adulthood, including looking beyond emotion regulation as an individualized process to incorporate relational considerations.

Older adults may be able to compensate for their declining cognitive abilities through utilizing other resources to effectively manage their emotions (Urry & Gross, 2010). Several theories of emotional aging have highlighted the role that resources in one's context and life environment (or the lack thereof) can play for the development of emotional well-being across adulthood (for a review, see Springstein et al., 2022). In particular, older adults might benefit from focusing on social features of the environment to regulate their emotions (English & Growney, 2021). As socioemotional selectivity theory suggests, individuals increasingly prioritize close or meaningful social relationships as they age (Fredrickson & Carstensen, 1990) and they hone their social networks to include a relatively high proportion of close relationships, which benefits their emotional well-being (English & Carstensen, 2014). The prioritization of close relationships in the service of emotional goals might provide the opportunity for older adults to rely on interpersonal emotion regulation more frequently and more effectively.

### **Intrinsic Interpersonal Emotion Regulation Across Adulthood**

Interpersonal emotion regulation involves the pursuit of an emotion regulation goal (consistent with the broader definition of emotion regulation; Gross, 2015) in the context of a social interaction. By this definition, interpersonal emotion regulation is different from changes in emotions that occur in the presence of

others without a regulatory goal necessarily being activated, such as experiencing more positive emotions in the presence of friends and family (Zaki & Williams, 2013). Interpersonal emotion regulation can be further differentiated by whether it is intrinsic (i.e., initiated by the target of regulation) or extrinsic (i.e., initiated by the regulator and directed toward someone else). The target of regulation here refers to the person whose emotions are regulated whereas the regulator refers to the person who is helping the target regulate their emotions (cf. Niven, 2017; Niven et al., 2009). For the purpose of this study, we focus on intrinsic interpersonal emotion regulation, which refers to episodes in which an individual initiates social contact in order to regulate their own experience (Zaki & Williams, 2013). For example, intrinsic interpersonal emotion regulation occurs when one person has an active goal to experience less negative emotion, and in order to achieve this goal, they seek out a friend to talk to them about their feelings. Some intrinsic interpersonal emotion regulation strategies are focused on reducing negative emotions, such as through social sharing (i.e., when feelings about negative events are shared with others) or co-reappraisal (i.e., when someone else is sought out to offer a different perspective on an emotional event), whereas others focus on positive emotions, such as through capitalization (i.e., sharing feelings about a positive event) or reminiscing (i.e., talking about positive events in the past). Studies with predominantly younger adults have found that people who use intrinsic interpersonal emotion regulation more frequently and more effectively experience relational and well-being benefits (Williams et al., 2018).

There are also certain intrapersonal emotion regulation strategies that may be considered social in nature because they concern expression of one's emotions, such as suppression (i.e., inhibiting the expression of felt emotion) or masking (i.e., showing an emotion that one is not feeling; English, 2024). These expression-focused strategies are frequently used in the presence of others (English et al., 2017), and their use fluctuates based on characteristics of interaction partners, such as their perceived supportiveness (Pauw et al., 2022). These strategies are not considered a form of interpersonal emotion regulation as they do not explicitly require the use of the other person as a regulator of one's emotions. However, assessing these expression-focused intrapersonal strategies in addition to explicitly interpersonal strategies (e.g., social sharing of negative emotion) can help paint a more complete picture of how social partners in one's environment may influence one's emotion regulation efforts.

It has been shown that older adults benefit emotionally from pruning their social networks (English & Carstensen, 2014). A vast literature has also shown that older adults tend to experience more satisfying and positive relationships than younger adults (for a review, see Luong et al., 2011). However, it has not been examined whether these positive relationships and social interactions that have been shown in previous literature lay the foundation for easy access to and more effective interpersonal emotion regulation. The theory of selective optimization with compensation in emotion regulation (Urry & Gross, 2010) proposes that older adults achieve well-being by selecting and optimizing emotion regulation processes to compensate for changes in internal and external resources. Older adults might have less access to certain cognitive resources compared to younger adults, but they are more likely to have social relationships that are beneficial and supportive. We therefore propose, and test in the present study, that using intrinsic interpersonal emotion regulation could be a way in which older adults are able to optimize their regulatory resources.

Thus far, research on the use and effectiveness of intrinsic interpersonal emotion regulation across adulthood is relatively scarce. Initial studies have collected everyday life assessments to examine the frequency and effectiveness of sharing negative emotions (a specific intrinsic interpersonal emotion regulation strategy). They find that older adults do not differ from younger adults in how often they share their negative emotions (Liu et al., 2021) and how effective their sharing attempts are for managing their emotions (Rauers & Riediger, 2023). While sharing one's negative emotions is one way to initiate intrinsic interpersonal emotion regulation, this only captures a subset of interpersonal emotion regulation which encompasses both regulating negative and regulating positive emotions (Williams et al., 2018). It has been shown that people most often engage in interpersonal emotion regulation to increase positive emotions (Tran et al., 2023), highlighting the need to study intrinsic interpersonal emotion regulation strategies that are specifically targeting positive emotions. For example, it has been shown that sharing positive news with someone else (i.e., capitalization) can have affective benefits (Gable et al., 2004). As individuals age, they attend relatively more to positive emotional stimuli (Mather & Carstensen, 2005). This pattern could also be reflected in how older adults regulate their emotions interpersonally by using others to capitalize on their positive emotions or reminisce about positive experiences. Though not explicitly focused on reminiscing as an emotion regulation strategy, one study found that even though age was unrelated with the frequency of engaging in mutual reminiscing, age was associated with higher positive emotions when engaging in reminiscing (Pasupathi & Carstensen, 2003). Therefore, we aim to explicitly assess whether age differences emerge in the use and effectiveness of these positive-focused intrinsic interpersonal emotion regulation strategies in addition to strategies often focused on downregulating negative emotions: sharing negative emotions and co-reappraising one's emotions.

# Older Adults as Resources for Intrinsic Interpersonal Emotion Regulation

In addition to engaging in intrinsic interpersonal emotion regulation more often or more effectively, older adults may also become more proficient at regulating emotions of others and are therefore sought out more often by others for interpersonal emotion regulation (Niven, 2022). Changes in frequency and effectiveness of interpersonal emotion regulation with partners across the lifespan might be due to potential interpersonal emotion regulation partners' enhanced motivation to engage emotionally with others (Carstensen et al., 2003), their increased life experience (Blanchard-Fields, 2007), and perceptions of older adults as wise and warm (Fiske, 2017; Schmidt & Boland, 1986).

As people get older, they tend to prioritize emotional goals over knowledge-related goals, finding value in getting the most out of the time they have remaining (Carstensen et al., 2003). This motivational change toward emotional meaning could not only result in better regulation of one's own emotions but also improvement in the management of other people's emotions (Niven, 2022). Interpersonal emotion regulation motives that focus on promoting the other person's or one's own well-being typically result in more beneficial

emotion regulation outcomes than motives focusing on knowledge (e.g., impression management; Niven, 2016; Springstein et al., 2023). This pattern of findings is thought to be due to the amount of energy and sincerity of investment being directed into the regulation of others' emotions (Niven, 2016).

In addition to motivational differences, older adults might also become more proficient at regulating others' emotions when they are approached as regulation partners due to their accumulated life experience (Blanchard-Fields, 2007). As individuals go through life, they are exposed to a variety of situations and challenges which elicit emotions that may need to be managed. Experience gained in these situations could help older adults gain skills that can then be used to effectively support the emotion regulation efforts of others through sharing wisdom and helping to choose appropriate tactics for the situation.

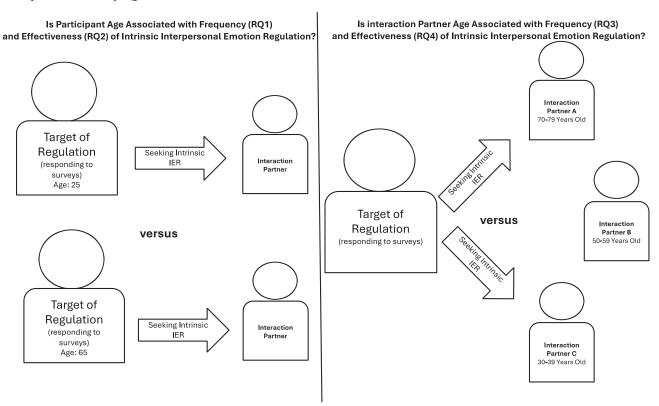
Though initial evidence suggests that older adults do not choose different strategies to regulate other people's emotions than younger adults when they initiate extrinsic interpersonal emotion regulation (Gurera et al., 2022), it is unclear whether older adults are approached more to engage in intrinsic interpersonal emotion regulation and whether they are more likely to be effective at helping individuals manage their emotions. The age stereotyping literature suggests that while older adults are stereotyped in negative ways, positive stereotypes about older adults as wise, offering good support to others (Schmidt & Boland, 1986), and being high in warmth (Fiske, 2017) are also commonly held across cultures. These stereotypes might lead people to approach older adults more frequently for intrinsic interpersonal emotion regulation.

#### The Present Study

In the present study, we investigate how often and how effectively intrinsic interpersonal emotion regulation is used by people across adulthood and with people across adulthood in day-to-day life. As highlighted by previous work (e.g., Liu et al., 2021; Tran et al., 2023), studying individuals in their naturalistic contexts allows us to observe interpersonal emotion regulation as it occurs with a variety of interaction partners and benefit from higher external validity than, for example, when instructing individuals to use strategies in laboratory settings. Effectiveness was operationalized as feeling higher emotional well-being (low negative emotional experience, high positive emotional experience) and more supported. Although these are two of the primary indicators of whether interpersonal emotion regulation was successful, there are other relevant factors (e.g., long-term outcomes or regulator perspective; Niven et al., 2024) which we do not consider in the present study.

We investigate four main questions. First, we ask whether there are age differences in the use of intrinsic interpersonal emotion regulation in general or certain interpersonal emotion regulation strategies, including sharing negative emotions, co-reappraisal, capitalization, and reminiscing. We hypothesize that age is associated with a higher likelihood to use intrinsic interpersonal emotion regulation, and we expected that this would particularly be the case for strategies that focus on positive emotion (i.e., capitalization and reminiscing; Hypothesis 1). Second, we ask whether there are age differences in the effectiveness of intrinsic interpersonal emotion regulation in general or certain strategies. We hypothesize that use of intrinsic interpersonal emotion regulation

Figure 1
Conceptual Overview of RQs



Note. IER = interpersonal emotion regulation; RQ = research question.

will more strongly predict the experience of higher positive emotion, lower negative emotion, and higher feelings of support with increasing age (Hypothesis 2). Third, we ask whether there are interaction partner age differences in the use of intrinsic interpersonal emotion regulation in general or certain strategies. We hypothesize that people are more likely to use intrinsic interpersonal emotion regulation when interacting with older adults (compared to when with young adults<sup>1</sup>; Hypothesis 3). Fourth, we ask whether there are interaction partner age differences in the effectiveness of intrinsic interpersonal emotion regulation in general or certain strategies. We hypothesize that people experience higher positive emotion, lower negative emotion, and higher feelings of being supported when using intrinsic interpersonal emotion regulation with increasing interaction partner age (Hypothesis 4). For a simplified depiction of our research questions, see Figure 1.

To explicitly contextualize and assess the specificity of the effects of using intrinsic interpersonal emotion regulation strategies (i.e., sharing negative emotions, co-reappraisal, capitalization, and reminiscing) focused on both negative and positive emotions, we also explore use and effectiveness effects for expression-focused intrapersonal emotion regulation strategies (i.e., suppression and masking). Both types of strategies are used in social contexts, but the expression-based intrapersonal strategies do not necessitate the goal to recruit social resources for one's own emotion regulation attempts like intrinsic interpersonal strategies do.

#### Method

#### **Participants**

Participants (N = 290) aged 25–85 years (M = 53.11, SD = 17.06) were recruited for a larger study on cognitive and social aspects of emotion regulation. The sample size was determined based on power analyses for that larger study. Details can be found in the Supplemental Materials. Recruitment aimed to about equally represent individuals across the adult lifespan by enrolling a similar number of people within 10-year age bins (information on number of participants in each age bin can be found in the Supplemental Materials). People were ineligible to participate if they did not read or speak English fluently or they had possible cognitive impairment as indicated by a score of 2 or above in the self-report version of the Ascertain Dementia eight-item Questionnaire (adapted from Galvin et al., 2005). Participants were 62% women, 38% men, and 1% were transgender or nonbinary. Individuals were representative of the racial diversity of the local area (73% White, 31% Black, 3%

<sup>&</sup>lt;sup>1</sup> While we will control for age of the target in our analyses, we will not assess interactions between participant age and interaction partner age as this question is beyond the theoretical scope of our article. We are also statistically not well-powered to test between-person three-way interactions (i.e., Participant Age × Partner Age × Strategy Use).

American Indian, 3% Asian, 2% Hispanic with individuals endorsing as many ethnicities as applied).

#### **Procedure and Measures**

Participants completed a three-part study, which included two inlab sessions that bookended a 10-day experience sampling period. Data collection occurred between Fall 2018 and Summer 2021. Participants reported their demographics including their age and completed other measures unrelated to the present study during the first lab session. They also completed a tutorial of the experience sampling procedure to ensure that participants understood and could provide examples of each strategy. Following the lab visit, using an experience sampling approach, participants were randomly surveyed six times a day during a 12-hr window of their choice for 10 days. If they did not respond immediately, participants were reminded to respond to the survey after 5 min. Once they were prompted, participants had a 15-min window to respond to the survey in which they first responded to questions about their emotions at the time of the prompt, any emotion regulation in which they might have engaged right before they responded to the survey and the age of their most recent social interaction partner. Financial compensation was provided at the end of each session (\$15/hr), with experience sampling compensation (\$30) provided at the end of the second lab session. Supplemental Figure S1 illustrates the procedures of the study.

Overall, N=11.895 prompts (out of N=17,400 prompts that were sent) were completed by participants. On average, participants completed 68% of prompts (SD=24%). No participants were excluded from analyses as multilevel models account for different amounts of data available for participants and recent recommendations suggest that excluding participants based on compliance might introduce biases to analyses (Jacobson, 2020; Kirtley et al., 2021).

#### Intrinsic Emotion Regulation Strategy Use

At each experience sampling prompt, participants indicated (yes/no) whether they were trying to influence their emotions by using social sharing ("I shared my negative feelings with others"), co-reappraisal ("I talked to someone else to get a new perspective"), capitalization ("I talked with another person about positive events"), and reminiscing ("I looked back on happy times in the past"), as well as intrapersonal emotion regulation strategies including suppression ("I kept my emotions to myself") and masking ("I tried to act differently than how I was feeling"). During the experience sampling tutorial, participants were instructed that "These items ask how you tried to influence your emotions or which strategies you used to increase, decrease, or maintain your emotions. That is, what did you do or think about prior to the prompt to impact your current emotional state?" To only capture regulation occurring with other people, these interpersonal and intrapersonal strategies were only counted as "true" instances if an interaction occurred within the last 30 min. On any nonsocial occasions, intrinsic interpersonal emotion regulation strategies were automatically coded as 0.

#### **Emotional Well-Being and Support**

Participants rated their current emotion experience and how *supported* they felt on a scale from 1 = not at all to 7 = extremely. Positive emotion (i.e., excited, enthusiastic, happy, relaxed, peaceful, grateful; within-person  $\omega = .82$ , between-person  $\omega = .94$ ) and negative emotion items (i.e., stressed, angry, nervous, sad, disgusted, sluggish, bored; within-person  $\omega = .67$ , between-person  $\omega = .91$ ) were averaged.

#### Partner Age

Participants indicated the age group (in 10-year increments) of the person/people they interacted with most recently. Age group was chosen because people might not be aware of the exact age of their interaction partner. If interacting with multiple people, participants were instructed to select the person with whom they were interacting the most. If interacting with multiple people equally, participants were instructed to select all applicable age groups. If participants were unaware of their interaction partner's concrete age, they were instructed to make their best guess. We coded the 9.7% of prompts in which multiple of these age groups were endorsed as missing because age of the interpersonal emotion regulation partner(s) was uncertain and then created one variable from 1 (Age 0–9) to 10 (Age 90+) to be used as a predictor variable.

#### **Transparency and Openness**

We report how we determined our sample size and all measures in the study. The analysis code is available on the Open Science Framework (Springstein et al., 2024). The Institutional Review Board (IRB) at Washington University in St. Louis approved the study (IRB ID No.: 201807088). All analyses were done in R Version 4.0.3 (R Core Team, 2020). This study's design and its analysis were not preregistered.

#### Data Analytic Plan

All our data analysis was performed using a multilevel framework to account for the fact that our data structure was nested (i.e., prompts nested within participants), and all available prompts were included. Multilevel modeling is commonly used in experience sampling research (e.g., see Liu et al., 2021; Tran et al., 2023) and allows researchers to distinguish between-person effects (e.g., how individuals differ from each other in their average interpersonal emotion regulation strategy use or effectiveness) from within-person effects (e.g., how individuals' regulation effectiveness differs when they use a certain strategy vs. do not use the strategy independent of how often people generally use the strategy). To examine age differences in strategy use, we used logistic multilevel regression. We ran models testing whether grand-mean centered continuous age of the participant predicted whether any interpersonal emotion regulation strategy was used (0 = no, 1 = yes) and whether each of the six individual strategies (four intrinsic interpersonal and two intrapersonal expression-focused strategies) was used. We then controlled for average positive and negative emotion to assess the robustness of strategy use effects beyond individual differences in emotional reactivity, given substantial evidence of age differences in emotional experiences (e.g., Carstensen et al., 2011). These results are reported in Table 1.

To examine effects of participant age predicting strategy effectiveness, we used linear multilevel models with positive emotion and feeling supported as outcomes. Due to skewness of the negative emotion variable (i.e., high frequency of occasions in which no negative emotions were present, also referred to as zero-inflation), we ran multilevel hurdle models representing a zero inflated  $\gamma$  distribution. These models separate the prediction of whether any negative emotion occurred (i.e., the likelihood of 0) from predicting the intensity of negative emotions when they are experienced. Simple slopes for hurdle models were probed using linear combinations with Holm-adjusted p values. Interaction terms between within-person strategy use and age were included to assess age differences in intrinsic interpersonal emotion regulation effectiveness. Results are reported in Table 2, and

**Table 1**Age Predicting Use of Intrinsic IER Strategies and Expression-Focused Intrapersonal Strategies in Social Contexts

		Model 1		Model 2			
Variable	b	SE	p	b	SE	p	
Any IER							
Intercept	-0.78	.09		-0.75	.09		
Age	-0.05	.05	.350	0.01	.05	.784	
PÄ				0.22	.07	.002	
NA				0.91	.18	<.001	
Social sharing							
Intercept	-2.21	.05		-2.17	.10		
Age	-0.18	.02	<.001	-0.10	.05	.041	
PÄ				0.08	.07	.270	
NA				0.95	.17	<.001	
Capitalization							
Intercept	-1.53	.10		-1.50	.09		
Age	-0.03	.05	.620	0.02	.05	.770	
PÄ				0.31	.07	<.001	
NA				0.75	.19	<.001	
Co-reappraisal							
Intercept	-2.40	.12		-2.37	.12		
Age	-0.11	.06	.095	-0.03	.06	.641	
PA				0.28	.02	<.001	
NA				1.06	.22	<.001	
Reminiscing							
Intercept	-2.26	.13		-2.22	.13		
Age	-0.05	.07	.485	-0.05	.07	.834	
PA				0.55	.10	<.001	
NA				1.21	.24	<.001	
Suppression							
Intercept	-1.12	.09		-1.10	.09		
Age	0.16	.05	<.001	0.22	.05	<.001	
PA				-0.08	.07	.243	
NA				0.50	.18	.005	
Masking							
Intercept	-2.38	.12		-2.33	.11		
Age	-0.23	.06	<.001	-0.10	.06	.075	
PA				-0.14	.08	.091	
NA				1.23	.20	<.001	

*Note.* Unstandardized estimates and standard errors are presented. Model controls for fixed and random effects of time in study. Age was rescaled such that it was divided by 10. IER = interpersonal emotion regulation; SE = standard error; PA = positive affect; NA = negative affect.

 Table 2

 IER Strategy Use Predicting Affect and Feelings of Support

	Model 1			Model 2		
Variable	b	SE	p	b	SE	p
PA						
Intercept	3.67	.07		3.67	.07	
Age	0.11	.04	.007	0.11	.04	.008
Any IER (w)	0.08	.04	.012	0.08	.03	.011
Any IER (b)	1.11	.27	<.001	1.11	.27	<.001
$Age \times Any IER (w)$				0.02	.02	.267
Supported						
Intercept	3.90	.09		3.90	.09	
Age	0.14	.05	.003	0.14	.05	.006
Any IER (w)	0.31	.04	<.001	0.31	.04	<.001
Any IER (b)	1.69	.33	<.001	1.68	.33	<.001
$Age \times Any IER (w)$				0.01	.02	.560
NA—Conditional model						
Intercept	-0.54	.03		-0.55	.03	
Age	-0.09	.02	<.001	-0.09	.02	<.001
Any IER (w)	0.12	.02	<.001	0.12	.02	<.001
Any IER (b)	-0.02	.01	.002	0.52	.13	<.001
$Age \times Any IER (w)$				-0.02	.01	.169
NA—Zero-inflation model						
Intercept	-0.97	.04		-0.98	.04	
Age	0.22	.01	<.001	0.22	.01	<.001
Any IER (w)	-0.04	.05	.390	-0.06	.05	.261
Any IER (b)	-1.26	.09	<.001	-1.26	.09	<.001
Age $\times$ Any IER (w)				0.07	.03	.027

*Note.* Unstandardized estimates and standard errors are presented. Model controls for fixed and random effects of time in study. Age was rescaled such that it was divided by 10. IER = interpersonal emotion regulation; SE = standard error; PA = positive affect;  $PA = \text{positive a$ 

results broken down by strategy can be found in Supplemental Tables S1 and S2. Additional models testing interactions with between-person strategy use are reported in the Supplemental Tables S5 and S6.

To examine the role of interaction partner age, we ran a similar set of models with the additional predictor of interaction partner age group, centered based on the average interaction partner age group (40–49). Participant age and interaction effects between participant age and strategy use in the case of effectiveness models were included in all of these models as a control variable. Results are reported in Table 3 for interaction partner age differences in the use of intrinsic interpersonal emotion regulation in general or certain strategies, while results for interaction partner predicting effectiveness of intrinsic interpersonal emotion regulation in general are reported in Table 4, effectiveness of specific intrinsic interpersonal strategies are reported in Supplemental Table S3, and effectiveness of expression-focused intrapersonal strategies are reported in Supplemental Table S4.

Between-person components of predictor variables were obtained by computing person-means and then grand-mean centering these, with the exception of the interaction partner age variable which was median-centered for interpretability purposes. Within-person components were obtained by person-mean centering variables for each measurement occasion. Random slopes were included for all within-person variables. Random effects for strategy use predicting effectiveness can be found in Supplemental Table S7. All models controlled for fixed and random effects of time in the study (i.e., time

**Table 3**Partner Age Predicting Use of Intrinsic IER and Expression-Focused Intrapersonal Strategies in Social Contexts

		SE	p
Any IER			
Intercept	-0.80	.09	
Age	-0.06	.05	<.001
Partner Age	0.01	.02	.460
Social Sharing			
Intercept	-2.24	.11	
Age	-0.19	.05	<.001
Partner Age	0.03	.02	.172
Capitalization			
Intercept	-1.57	.10	
Age	-0.05	.05	.390
Partner Age	0.02	.02	.350
Co-reappraisal			
Intercept	-2.52	.14	
Age	-0.16	.07	.018
Partner Age	0.06	.02	.017
Reminiscing			
Intercept	-2.30	.14	
Age	-0.05	.07	.532
Partner Age	-0.01	.02	.574
Suppression			
Intercept	-1.12	.09	
Age	0.15	.05	.002
Partner Age	0.01	.02	.376
Masking			
Intercept	-2.38	.12	
Age	-0.21	.06	<.001
Partner Age	-0.05	.02	.025

*Note.* Unstandardized estimates and standard errors are presented. Partner age was centered at the median (40–49 years old). Model controls for fixed and random effects of time in study. Age was rescaled such that it was divided by 10. IER = interpersonal emotion regulation; SE = standard error.

since starting the first survey) to remove any spurious associations due to time trends in the data. Time was added as a continuous variable to account for unequal spacing of prompts. Because of the complexity of our models, prompts were only nested within person and no third level for day was added, as adding this additional nesting variable led to convergence issues. Follow-up models tested for curvilinear age effects; no curvilinear effects emerged, so only linear effects of age will be reported.

#### Results

Across the sample, intrinsic interpersonal emotion regulation was reported in 32% (SD=25%) of prompts participants completed on average. With regard to expression-focused intrapersonal emotion regulation in social contexts, participants reported suppressing their emotions in 29% (SD=22%) of prompts on average and masking their emotions in 14% (SD=17%) of prompts on average.

Over time in the study (i.e., time since the first prompt), intrinsic interpersonal emotion regulation strategy use decreased (b = -0.07, SE = .01, p < .001). Positive affect and feelings of support did not change with time (ps > .140), but people reported lower negative affect intensity (b = -0.02, SE = .01, p < .001) and a higher likelihood to not feel any negative affect (b = 0.05, SE = .01, p < .001) over time. Effects of intrinsic interpersonal emotion

regulation strategy use did not vary by time in study (ps > .517). We controlled for time in the study in all models.

# Age Effects on Intrinsic Interpersonal Emotion Regulation Use

We hypothesized that age is associated with higher use of intrinsic IER strategies—especially capitalization and reminiscing. Although when collapsing across strategy type, age was not associated with a higher likelihood to use intrinsic interpersonal emotion regulation (b = -0.05, SE = .05, p = .350, 95% CI [-0.15, 0.05], OR = 1.05), there was a significant age effect for a specific strategy: Social sharing was used less often the older individuals were (b = -0.18, SE = .05, p < .001, 95% CI [-0.29, -0.09], OR = 0.84) which was in the opposite direction of our hypothesis (Hypothesis 1), and this

**Table 4**Partner Age and Intrinsic IER Strategy Use Predicting Affect and Feelings of Support

	M	Model 1			Model 2		
Variable	b	SE	p	b	SE	p	
PA							
Intercept	3.67	.07		3.67	.07		
Age	0.11	.04	.010	0.10	.04	.012	
Any IER (w)	0.10	.03	.044	0.08	.03	.028	
Any IER (b)	1.06	.27	<.001	1.07	.27	<.001	
Partner Age	-0.004	.01	.456	-0.004	.01	.417	
Any IER (w) $\times$ Age				0.04	.02	.076	
Any IER (w) ×				-0.01	.01	.178	
Partner Age							
Supported							
Intercept	3.87	.09		3.87	.09		
Age	0.14	.05	.006	0.13	.05	.001	
Any IER (w)	0.29	.04	<.001	0.29	.04	<.001	
Any IER (b)	1.65	.34	<.001	1.64	.34	<.001	
Partner Age	-0.01	.01	.278	0.01	.01	.290	
Any IER $(w) \times Age$				0.03	.03	.230	
Any IER (w) ×				-0.01	.02	.420	
Partner Age							
NA—Conditional model							
Intercept	-0.56	.03		-0.56	.03		
Age	-0.10	.02	<.001	-0.10	.02	<.001	
Any IER (w)	0.12	.02	<.001	0.12	.03	<.001	
Any IER (b)	0.60	.13	<.001	0.60	.13	<.001	
Partner Age	0.001	.01	.751	0.001	.01	.716	
Any IER (w) $\times$ Age				-0.03	.02	.063	
Any IER (w) $\times$				0.01	.01	.412	
Partner Age							
NA—Zero-inflation							
model							
Intercept	-1.00	.04		-1.00	.04		
Age	0.24	.02	<.001	0.24	.02	<.001	
Any IER (w)	-0.05	.06	.384	-0.07	.06	.201	
Any IER (b)	-1.35	.10	<.001	-1.35	.10	<.001	
Partner Age	-0.05	.01	<.001	-0.05	.01	<.001	
Any IER (w) $\times$ Age				0.002	.04	.963	
Any IER $(w) \times$				0.05	.03	.158	
Partner Age							

*Note.* Unstandardized estimates and standard errors are presented. Partner age was centered at the median (40–49 years old). Age was rescaled such that it was divided by 10. IER = interpersonal emotion regulation; *SE* = standard error; PA = positive affect; NA = negative affect; w = within-person effect; b = between-person effect.

effect remained significant when controlling for emotional experience. No other significant effects emerged for age predicting intrinsic interpersonal emotion regulation, meaning neither Hypothesis 1 nor Hypothesis 2 was supported. With regard to intrapersonal expression-focused strategies, age was associated with suppressing emotions more frequently (b = 0.16, SE = .05, p < .001, 95% CI [0.07, 0.26], OR = 1.17), but masking emotions less frequently (b = -0.23, SE = .06, p < .001, 95% CI [-0.35, -0.12], OR = 0.79). Figure 2 shows the predicted probabilities of using these strategies by age. Age differences in suppression, but not masking, were robust when controlling for emotional experience. See Table 1 for detailed results.

# **Intrinsic Interpersonal Emotion Regulation Effectiveness**

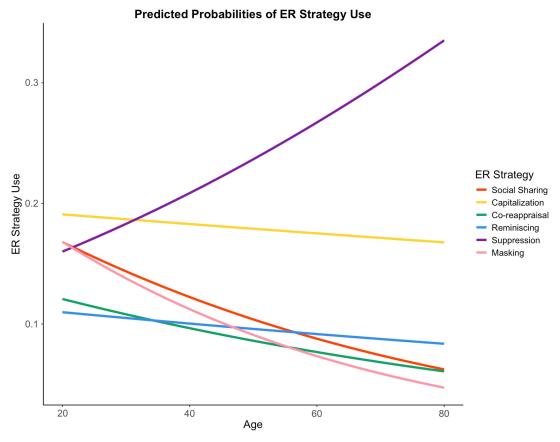
Prior to investigating age differences in interpersonal emotion regulation effectiveness, we assessed the effectiveness of interpersonal emotion regulation across the sample without accounting for potential age differences. Our results indicate that overall, on occasions participants reported using any intrinsic interpersonal emotion regulation strategy, they tended to report higher momentary positive affect (b = 0.08, SE = .03, p = .012, 95% CI [0.03, 0.19])

and higher feelings of support (b = 0.31, SE = .04, p < .001, 95% CI [0.05, 0.24]) but also higher momentary negative affect (b = 0.12, SE = .02, p < .001, 95% CI [0.08, 0.15]). Table 2 presents the main effects of intrinsic interpersonal emotion regulation strategy use on positive affect, feeling supported, and negative affect.

We hypothesized that intrinsic IER strategy use is more strongly linked to higher positive emotion, lower negative emotion, and higher feelings of support among relatively older adults than among relatively younger adults. When assessing interactions between participant age and intrinsic interpersonal emotion regulation strategy use, an age interaction effect emerged for the likelihood of experiencing no negative emotion (b = 0.07, SE = .03, p =.027, 95% CI [0.01, 0.13], OR = 1.07). Specifically, people who were older were more likely than people who were younger to experience no negative emotions on occasions when they had reported engaging in intrinsic interpersonal emotion regulation, highlighting partial support for Hypothesis 2. However, no interaction effects were present for intensity of negative emotion, positive emotion, or support. See Table 2 for detailed results. Figure 3 illustrates the effects of intrinsic interpersonal emotion regulation effectiveness by age. No age-related differences emerged for specific interpersonal strategies. See Supplemental Table S1 for detailed results.

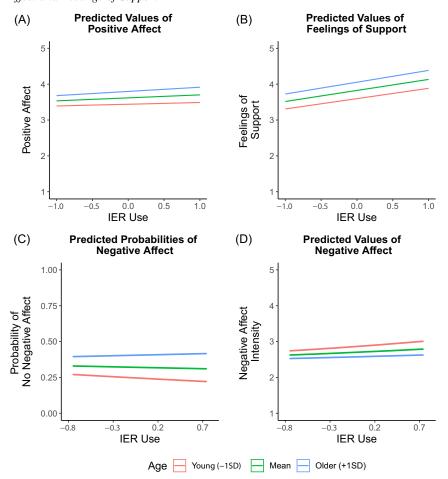
Figure 2

Predicted Probabilities of Using Intrinsic Interpersonal Emotion Regulation and Expression-Focused Intrapersonal Emotion Regulation



Note. ER = emotion regulation. See the online article for the color version of this figure.

Figure 3
Intrinsic Interpersonal Emotion Regulation Strategy Use and Regulator Age Predicting Affect and Feelings of Support



*Note.* Participant age and use of intrinsic interpersonal emotion regulation (IER) strategies were positively associated with (A) positive affect and (B) negative affect. (C) Intrinsic IER strategy use was associated with a higher likelihood of experiencing no negative affect among older adults than among younger adults. (D) Participant age was associated with lower intensity of negative affect. Intrinsic IER strategy use was associated with higher intensity of negative affect, and this did not vary by participant age. See the online article for the color version of this figure.

In terms of intrapersonal expression-focused strategies, there were significant interactions between participant age and suppression when predicting all three indicators of effectiveness (i.e., negative emotion, positive emotion, and feeling supported) indicating less detrimental effects of using suppression the older people were. For example, with increased age, the negative within-person association between suppression and positive affect was attenuated  $(-1 SD: b = -0.32, SE = .05, p < .001; M_{agc}: b = -0.23, SE = .03, p < .001; +1 SD: b = -0.14, SE = .04, p = .001). See Supplemental Table S2 for detailed results.$ 

#### **Interaction Partner Age Effects on Intrinsic Interpersonal Emotion Regulation Use**

We expected that individuals use intrinsic IER strategies more frequently with relatively older social partners. Intrinsic interpersonal emotion regulation strategies generally did not differ in their use dependent on the age of interaction partners. In terms of specific intrinsic interpersonal emotion regulation strategies, co-reappraisal was used more frequently the older the interaction partner was (b = 0.06, SE = .02, p = .017, 95% CI [0.01, 0.11], OR = 1.06), offering partial support to Hypothesis 3. In addition, masking was used less the older the interaction partner was (b = -0.05, SE = .02, p = .025, 95% CI [-0.09, -0.01], OR = 0.95). See Table 3 for more details and Supplemental Figure S2 for likelihoods of using intrinsic interpersonal emotion regulation strategies with different age groups, adjusting for frequency of interacting with age groups.

## **Interaction Partner Age Effects on Intrinsic Interpersonal Emotion Regulation Effectiveness**

We hypothesized that intrinsic IER strategy use is more strongly linked to higher positive emotion, lower negative emotion, and higher feelings of support when interaction partners are relatively older versus relatively younger. When collapsing across strategy type (i.e., when any intrinsic interpersonal emotion regulation strategy was used), no effect of interaction partner age emerged. See Table 4 for detailed results.

When examining specific strategies, age of one's interaction partner only moderated the effect of social sharing. Namely, an interaction emerged between social sharing and interaction partner age when predicting the intensity of negative affect (b = 0.04, SE = .02, p = .032, 95% CI [0.003, 0.07]). Simple slopes analyses for each age group showed that across the interaction partner age range, using social sharing was associated with more intense negative affect. However, this effect was stronger with increasing age of sharing partners (e.g., with 30- to 39-year-old: b = 0.29, SE = .04, p < .001; with 70- to 79-year-old: b = 0.43, SE = .05, p < .001), which was contrary to Hypothesis 4. See Figure 4 for illustration. See Supplemental Table S3 for nonsignificant interaction results involving other intrinsic interpersonal emotion regulation strategies.

For intrapersonal strategies related focused on emotion expression, an interaction effect emerged for expressive suppression and interaction partner age on the intensity of negative emotion (b = -0.03, SE = .01, p = .018, 95% CI [-0.05, -0.01]). Simple slopes analyses indicated that while expressive suppression was associated with heightened negative emotion when interacting with adults up to 50 years old (e.g., with 30–39 year-old b = 0.12, SE = .03, p < .001), no significant relationship between expressive suppression and negative emotion emerged for adults beyond 50 years old (e.g., with 50- to 59-year-old: b = 0.07, SE = .03, p = .059). See Supplemental Table S4 and Figure 5 for details.

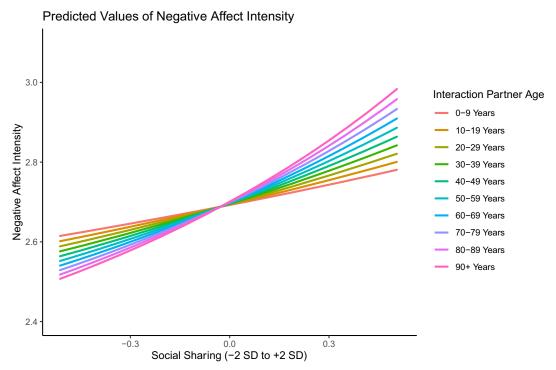
In addition, interactions emerged for masking and interaction partner age in predicting positive affect (b=0.04, SE=.02, p=.016, 95% CI [.01, 0.08]) and feeling supported (b=0.05, SE=.02, p=.021, 95% CI [0.01, 0.10]). Simple slopes showed that masking was generally associated with lower positive affect, but this affect was attenuated when interacting with older interaction partners (e.g., with 30- to 39-year-old: b=-0.64, SE=.06, p<.001; with 60- to 69-year-old: b=-0.51, SE=.06, p<.001). In addition, masking was associated with less perceived support with interaction partners up to 80 years old (e.g., with 50- to 59-year-old: b=-0.36, SE=.05, p<.001), but not associated with perceived support when interacting with people over 80 years old (e.g., with 80- to 89-year-old: b=-0.15, SE=.10, p=.134). See Supplemental Table S4 and Supplemental Figures S3 and S4 for details.

#### Discussion

This study aimed to test how the age of both the target of intrinsic interpersonal emotion regulation and their interaction partners predicts the use and effectiveness of intrinsic interpersonal emotion regulation in daily life. Given age-related improvements in social resources and increased focus on emotional goals (Carstensen, 2006), we hypothesized that older adults would use intrinsic interpersonal emotion regulation more frequently and more effectively than young adults. We also hypothesized that people would use intrinsic interpersonal emotion regulation more frequently and more effectively when interacting with older adults, who typically have more experience managing emotion and handling social difficulties (Blanchard-Fields, 2007), rather

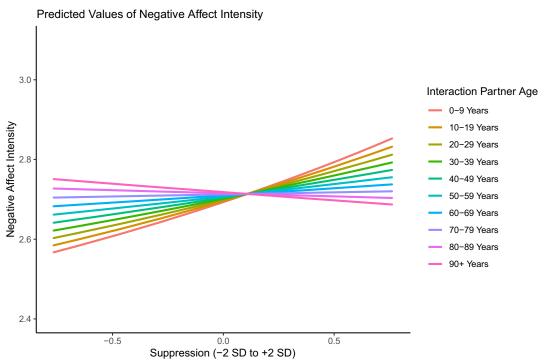
Figure 4

Effect of Using Social Sharing With Social Partners of Different Ages on Negative Affect Intensity



Note. See the online article for the color version of this figure.

**Figure 5** *Effect of Using Suppression With Social Partners of Different Ages on Negative Affect Intensity* 



Note. See the online article for the color version of this figure.

than when interacting with younger adults. Our results did not provide support for these hypotheses, however, and in some areas, they even suggest contrary effects.

To summarize, we did not find any age differences in how often people engaged in intrinsic interpersonal emotion regulation, except that people who were older were less likely to engage in social sharing of negative emotions (even when controlling for negative emotional experience). In terms of expression-focused intrapersonal emotion regulation strategies, older adults were also more likely to suppress their display of emotions. There was minimal evidence suggesting that people who were older were more effective at using intrinsic interpersonal emotion regulation strategies than younger adults. When engaging in intrinsic interpersonal emotion regulation, older adults were less likely to experience any negative emotions but there was no difference in their negative emotion intensity, experience of positive emotion, or feelings of support. In contrast, when assessing expression-focused intrapersonal strategies, older adults' use of suppression was more consistently associated with less detrimental effects (i.e., less reduction in positive affect and feeling supported as well as less increase in negative affect intensity than for younger adults). Age group of one's interaction partner was largely unrelated to how often people engaged in intrinsic interpersonal emotion regulation, with the exception of co-reappraisal. People were more likely to use co-reappraisal with social partners who were older than with social partners who were younger. Unexpectedly, however, there was some evidence to suggest that intrinsic interpersonal emotion regulation with older adult partners may be less effective. Specifically, sharing negative emotions was

more strongly linked to heightened negative affect with older adults compared to when with younger adults.

#### Use and Effectiveness of Intrinsic Interpersonal Emotion Regulation Across Adulthood

Contrary to our hypotheses, there was little evidence of older adults using intrinsic interpersonal emotion regulation more often or more effectively than young adults. When summarizing across different strategies, age was not related to using intrinsic interpersonal emotion regulation more frequently. Regarding the effectiveness of using any type of intrinsic interpersonal emotion regulation strategy, the only effect that emerged suggests age is associated with a lower likelihood to experience any negative emotions after interpersonal regulation but not a difference in intensity of negative emotions (or differences in positive affect or feelings of support). This isolated effect might suggest that the kinds of intrinsic interpersonal emotion regulation interactions that older adults experience are more aimed toward eliminating any negative emotions. Future differentiation of intrinsic interpersonal emotion regulation strategies by tactics (e.g., using co-reappraisal to decrease negative emotions vs. using coreappraisal to increase positive emotions) could further elucidate this finding, as it, for example, has been shown that with regard to intrapersonal strategies, younger adults tended to consistently prefer positivity-seeking tactics and older adults preferred negativityavoidance tactics (Wolfe et al., 2022).

Our only significant strategy use effect, which showed that people who were older were less likely to report sharing their negative emotions with others, aligned with other recent research on negative social sharing (Liu et al., 2021). Given the preference for positive stimuli in older age (Mather & Carstensen, 2005), older adults may be less likely to want to discuss negative emotions with others as to not direct further attention to issues or concerns that would cause them to relieve any negative emotions. It is possible that not wanting to share negative emotions as frequently could preserve positive feelings in the moment, as oftentimes sharing negative emotions does not result in affective improvements (Rimé et al., 2020). Literature on corumination (i.e., perseverating on negative emotions with others) has also shown that persistent discussion of negative emotion evoking events exacerbates stress (Tudder et al., 2023). Avoiding diving into negative emotional topics might prevent corumination and its detrimental effects. In addition, older adults might hold beliefs about intrinsic interpersonal emotion regulation that suggest that sharing negative emotions might burden close others. For example, older adults have been shown to seek less support out of fear of burdening others (Jiang et al., 2018).

While social sharing of negative emotions might not lead to immediate emotion improvement, people can benefit from sharing negative emotions by experiencing increased closeness with their sharing partner (Rimé et al., 2020). Interestingly, however, these boosts in momentary closeness were found to be more pronounced for younger rather than older women in a recent study (Rauers & Riediger, 2023). While our study did not show increases in feeling supported after sharing negative emotions across individuals and no age interactions emerged for feeling supported after social sharing, we did not specifically assess changes in feelings of closeness to the regulator after sharing negative emotions. In addition to potentially experiencing less relational benefits of sharing negative emotions, older adults might also be less likely to share their negative emotions due to the emotional dynamics of their relationships. It has been shown that older age is associated with receiving less emotionoriented support when seeking intrinsic interpersonal emotion regulation, such as being less likely to receive encouragement from interaction partners to share their negative emotions (Liu et al., 2021). Studies involving older adults with self- and other-reported reactions to social sharing by social network partners, such as spouses, might help shed light on these dynamics. Stereotypes of older adults as warm but not competent (Fiske, 2017) might also contribute to interaction partners of older adults pitying them but not taking their concerns seriously and expecting that they might not be as helpful when needing to reach out for intrinsic interpersonal emotion regulation.

Interestingly, using co-reappraisal as an intrinsic interpersonal emotion regulation strategy did not show any age differences in its frequency and effectiveness, highlighting that with increasing age people might maintain similar levels and success in utilizing this strategy to regulate their emotions. The literature on intrapersonal emotion regulation has shown that there is often more similarity between people across adulthood than differences with regard to how emotions are regulated (e.g., Isaacowitz, 2022). Our findings suggest that the ability to co-reappraise is maintained throughout adulthood, including into older adulthood. It has been suggested that older adults use social partners to compensate for losses of other abilities (Urry & Gross, 2010), so they may use social others to help them reappraise rather than solely relying on their own cognitive capacity to reappraise a situation. However, even in work with younger adults, it has been shown that receiving help to reappraise

is beneficial (Sahi et al., 2025). Future work should investigate whether older adults specifically rely more on co-reappraisal in situations when their cognitive resources are depleted to highlight areas in which age differences might emerge.

Older adults' focus on positive emotions (Mather & Carstensen, 2005) suggests that compared to younger adults, older adults might show differences from younger adults in positive emotion-focused intrinsic interpersonal emotion regulation, such as capitalizing on positive events with others more frequently or more effectively. However, our data do not support the existence of age differences in using capitalization or reminiscing in daily life. The definition of intrinsic interpersonal emotion regulation entails the presence of a momentary goal to regulate one's emotions (Zaki & Williams, 2013). While older adults might experience affect improvements that occur in the presence of others, such as experiencing more positive emotions in the presence of friends and family due to selective narrowing of their social network (English & Carstensen, 2014), they might not differ from younger adults in their explicit intrinsic interpersonal emotion regulation attempts.

It is premature to conclude that no age differences in intrinsic interpersonal emotion regulation exist given the relatively small number of specific strategies that were assessed in our study. More work is needed to evaluate how older adults might use less explicit or less cognitively demanding forms of intrinsic interpersonal emotion regulation (e.g., affection or validation; Verstaen et al., 2020).

# Older Adults as Resources for Intrinsic Interpersonal Emotion Regulation?

Age of interaction partners largely did not matter for whether people engaged in intrinsic interpersonal emotion regulation. However, co-reappraisal was used more frequently with relatively older interaction partners, suggesting that people who are relatively older might be perceived as wiser or able to offer different perspectives on emotional situations given their life experience (e.g., Niven, 2022). This finding aligns with work showing that adolescents and young adults tend to follow the advice of older adults over the advice of peers (Lourenco et al., 2015). Although we did not find that age was associated with increased effectiveness of co-reappraisal, we also did not see lower effectiveness with age suggesting that older adults maintain the ability to effectively co-reappraise others' emotional situations.

The effectiveness of intrinsic interpersonal emotion regulation was only related to interaction partner age for one strategy. Specifically, social sharing tended to be less effective as interaction partner age increased, as indicated by more intense negative emotion. The social input model (Fingerman & Charles, 2010) suggests that individuals treat older adults with reverence and positive regard and are motivated to avoid negativity with older social partners due to perceived limited time left in such relationships. Drawing on this model, one might expect individuals to engage in social sharing of negative emotions less frequently with older social partners. While the present study does not test this idea, one possibility is that individuals are hesitant to fully disclose details of a situation when sharing negative emotions with older adults, fearing that they may upset or overly burden a social partner that they value highly. As a result of hesitance to be open with them, older adult social partners may be left with insufficient information to provide effective interpersonal emotion regulation support. In support of this theorizing, we also find that while suppressing one's emotions is associated with heightened negative affect when interaction partners are up to 50 years old, this effect does not emerge when interaction partners are older than 50. This finding suggests that concealing one's true feelings from older adults might serve as a function for the target of intrinsic interpersonal emotion regulation. Future work is needed to evaluate the details of these support-seeking interactions.

Overall, these results contradict our hypotheses about older adults being more effective regulators of others' emotions due to their life experience (Blanchard-Fields, 2007) and motivation for emotional meaning that might shape their extrinsic interpersonal emotion regulation goals (Niven, 2022). Due to the relatively higher frequency at which younger adults experience negative emotions (Carstensen et al., 2011), they might be better able to relate to negative emotional experiences of others. Cohort differences in tolerance toward the expression of negative emotions may also have made younger adults more used to handling others' negative emotion expressions. In contrast, older adults might be less likely to attend to others' negative emotions, as research has shown that older adults attend relatively less to faces expressing negative emotions than do younger adults (Isaacowitz et al., 2006a, 2006b; Mather & Carstensen, 2003). Because older adults do not attend to negative expressions as much, they might not detect that an extrinsic interpersonal emotion regulation goal should be activated. Work on empathic accuracy also suggests that older adults are less accurate when judging an interaction partner's negative feelings and when judging thoughts that accompanied experiences of negative affect, but do not differ from younger adults in their empathic accuracy for positive feelings and for thoughts accompanying experiences of positive affect (Blanke et al., 2015). Older adults may be less able to leverage their strengths in regulating negative emotions of others because they are less accurate at recognizing thoughts and feelings of the regulation target in the moment. However, this effect might not extend to the regulation of positive emotion (e.g., savoring) and it may depend on the closeness of the relationship to the target as well as the amount of information that is available about the emotional state of the target of regulation.

Lastly, we suggested that older adults might be particularly well-equipped to regulate others' emotions because their wisdom and life experience enable them to provide helpful advice. However, this age-related benefit may not have resulted in greater regulator effectiveness because people prefer emotions being validated over getting advice from others (Pauw et al., 2018). One article looking at which extrinsic interpersonal emotion regulation strategies older versus younger adults select to regulate someone else's negative emotions in laboratory settings did not find any age differences (Gurera et al., 2022), though validation was not explicitly assessed. Future studies should test whether older adults engage in less validation when negative emotions are shared with them and provide more (perhaps unwanted) advice in these situations.

#### **Future Directions and Limitations**

Our study captured intrinsic interpersonal emotion regulation in daily life using experience sampling in an age-diverse sample. This approach presents several strengths. On one hand, our study captured interpersonal emotion regulation as it occurred naturalistically, allowing for regulation to occur in diverse social interactions with different relationship partners. In addition, our study included participants across the adult lifespan, providing insight into emotion regulation processes across different life stages. However, there are several ways in which future studies could improve on the current work.

First, even though we assessed both negative and positive emotion-focused intrinsic interpersonal emotion regulation, only four specific strategies were investigated. Therefore, our conclusions only apply to a limited set of strategies, and in terms of effects for overall intrinsic interpersonal emotion regulation, it should be noted that participants may have used other strategies that were not measured (e.g., affection). When people engage in interpersonal emotion regulation, they most often do so to increase positive emotions (Tran et al., 2023). More work therefore is needed on additional intrinsic interpersonal emotion regulation strategies that specifically target positive emotions. For example, people can seek out others who will cognitively or behaviorally divert their attention to increase positive emotions, such as through humor or their displays of positive affect (Niven et al., 2009).

Second, our study only considered the perspective of the target of intrinsic interpersonal emotion regulation, not their interaction partners. Interpersonal emotion regulation is often thought to be a reciprocal process in which both partners engage in intrinsic and extrinsic regulation of emotions within the same interaction (Zaki & Williams, 2013). In the present study, however, it is unclear whether interaction partners were actively involved in trying to manage the participant's emotions. They may have been unaware of the target's goals or responded to attempts for interpersonal emotion regulation support in ways that did not address the target's emotions. More work is needed to examine whether there may be age differences in the extent to which extrinsic interpersonal emotion regulation goals are successfully initiated by social partners seeking out support. Future studies would also benefit from expanding to include both target and regulator perspectives about interpersonal emotion regulation as they might diverge (Ruan et al., 2024). For example, prior work has shown that support recipients whose partners provide more invisible practical and emotional support (i.e., support that is not perceived as such) tend to experience stronger reductions in negative emotions (Howland & Simpson, 2010).

Third, we did not differentiate between moments in which social interactions are naturally occurring and an opportunity for intrinsic interpersonal emotion regulation arises, versus moments in which social interactions were initiated for the main purpose of engaging in intrinsic interpersonal emotion regulation. It is possible that people who have regularly scheduled and spontaneous interaction with others might engage in more intrinsic interpersonal emotion regulation because they do not need to go through as much effort to initiate this process as someone who needs to first initiate a social interaction. Future studies should explicitly assess whether social interactions are initiated for the main purpose of intrinsic interpersonal emotion regulation. In addition, our analyses involving age of interaction partner controlled for own age to account for potential age differences in access to interaction partners of different ages, as, for example, a young adult might not have access to many oldestolder adults in daily life. We did not have enough statistical power to systematically investigate whether the frequency and usefulness of intrinsic interpersonal emotion regulation with different age groups vary across people of different ages. However, this is an exciting direction for future research, especially given the particular benefits of receiving emotional support from grandparents (Bernhold, 2020) and engaging in supportive intergenerational interactions with unfamiliar social partners (Kessler & Staudinger, 2007).

Fourth, our study relied on positive and negative emotion and feelings of support as indicators of intrinsic interpersonal emotion regulation effectiveness because most of the time people engage in emotion regulation for prohedonic reasons (Tran et al., 2023). However, we did not explicitly consider what individuals' goals were for engaging in interpersonal emotion regulation. To more precisely assess whether emotion regulation is successful, one has to consider whether the goals of engaging in regulation are satisfied (Springstein & English, 2024). In the case of interpersonal regulation, there are a variety of short-term or long-term perspectives that one can take on what counts as successful regulation (Niven et al., 2024). It is also important to consider that the interaction partner might be engaging in extrinsic interpersonal emotion regulation, such as wanting to make the target of regulation feel better or making a good impression on the target (Niven, 2016). In addition, work with dyads in the laboratory context might be able to assess outcomes and antecedents of interpersonal emotion regulation with a higher temporal resolution enabling researchers to test the temporal dynamics of interpersonal emotion regulation and the short-versus long-term effects of intrinsic interpersonal emotion regulation across adulthood.

Fifth, while our community sample represents the demographics of St. Louis, it is not clear how our findings would generalize to other ethnicities within the United States or cultures in other countries. For example, only 2% of our sample identified as Hispanic. It has been shown that aging individuals who identify as Hispanic show improved mental health outcomes when living with others versus living alone, whereas non-Hispanic individuals do not (Russell & Taylor, 2009). It is possible that intrinsic interpersonal emotion regulation might differ in its use and effectiveness in aging Hispanic populations. Future studies should specifically investigate the generalizability of our results across groups with different cultural backgrounds.

Sixth, as our study assesses age cross-sectionally, it is therefore likely that our results at least in part reflect generational differences between relatively younger and relatively older adults during our current times. While to our knowledge, longitudinal aging studies of interpersonal emotion regulation are not yet available due to the relatively young nature of this field of study, future studies could explicitly investigate the role of generational mechanisms in these findings, such as experience with socioemotional education programs or attitudes toward expressing emotions.

Seventh, it has been suggested that moderators could play a role in whether older adults use intrinsic interpersonal emotion regulation more often or more effectively, namely cognitive demand and motivational relevance of the situation (Niven, 2022). For example, older adults might not be more effective at regulating the emotions of others in more cognitively demanding circumstances, as they may be at a disadvantage when regulation could require more fluid processing. Similarly, older adults might only be effective at regulating emotions of others to whom they feel especially close, in situations that are emotionally meaningful to them personally, or in situations where they can draw on their wisdom or experience rather than fluid cognitive ability. As we did not capture cognitive demands and goal-congruence in the moment, future studies are

needed to explicitly assess situational moderators of age effects on interpersonal emotion regulation use and effectiveness.

#### **Conclusions**

Our study investigated the role of age of the target and age of the interaction partner in intrinsic interpersonal emotion regulation use and efficacy. There were minimal target age-related differences in intrinsic interpersonal emotion regulation strategy use and efficacy. Thus, at least considering negative emotion-focused regulation, explicit interpersonal emotion regulation might not be the way older adults compensate for potential deficits in cognitive resources to maintain well-being. Future studies should evaluate additional ways older adults may effectively utilize their social resources to promote adjustment, including the use of positive emotion-focused interpersonal emotion regulation strategies. In line with our predictions, we found that older adults are preferable social partners for coreappraisal, suggesting that they may be viewed as a good resource in situations that could benefit from another person's perspective. However, engaging in interpersonal emotion regulation with older adults was less effective when sharing negative emotions. More work is needed to further investigate how older adults engage with others' feelings and how they can best leverage their unique experiential and motivational resources to offer comfort and support for others' emotional well-being.

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