Empathy and Coping: Older Adults' Interpersonal Tensions and Mood throughout the Day

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Abstract

Introduction: Scholars have proposed that empathy is a key feature of strong social ties, but less is known about the role empathy plays when tensions arise. **Objective:** We examined whether older adults' empathy was associated with (a) coping strategies for interpersonal tensions, and (b) mood when there were tensions throughout the day. We also explored whether coping strategies explained the potential buffering effect of empathy on older adults' momentary mood. **Methods:** Older adults ($N = 302$) from the Daily Experiences and Well-Being Study completed a baseline survey on empathy and coping strategies. They also completed ecological momentary assessments every 3 hours each day for 5–6 days, which included questions about interpersonal tensions and mood. This study considered tensions with close partners (e.g., family and friends) and with non-close partners (e.g., acquaintances and service providers). **Results:** In the face of interpersonal tensions, more empathic older adults reported using more constructive and less destructive

coping strategies than less empathic older adults, regardless of their closeness to social partners. Being more empathic also buffered older adults' mood when tensions occurred with close partners, but this buffering effect was not mediated by older adults' general preference for coping strategies. **Conclusion:** This study advances our understanding of empathy and interpersonal tensions in later life, with a focus on daily experiences.

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Introduction

Scholars have long viewed empathy, the ability to share and understand others' emotions, as a central feature of successful social lives [1]. Research links greater empathy to more frequent support exchanges and more positive relationships [2, 3]. Yet, less is known about the role empathy plays when tensions arise. Interpersonal tensions (i.e., irritations and stressful encounters in social relationships) are common stressors and may compromise individuals' social relationships and well-being [4, 5]. Our study focuses on empathy and interpersonal tensions in later life. Although older adults experience fewer tensions

than younger adults [6, 7], they report poorer well-being when these tensions cannot be avoided [8, 9].

The scant literature on empathy and interpersonal tensions suggests that empathy seems to influence the consequences, but not the occurrence, of tensions [10, 11]. For example, our recent research [11] examined older adults' empathy and their encounters (including tensions) with close family and friends who have major life problems (e.g., health concerns, relationship problems, or financial issues). We found that empathy was not associated with the likelihood of having tension with these social partners through the day, but that being more empathic buffered older adults' mood when tensions did occur. It remains unclear whether the way older adults cope with tensions may underlie this effect of empathy, and when empathy is most effective at buffering tensions (older adults may also experience tensions with acquaintances they do not know well; i.e., non-close partners). These gaps in the literature limit our understanding of individual differences in social experiences and well-being in later life.

Individuals vary with regard to the coping strategies they use in the face of interpersonal tensions, and this variation may be explained by empathy. Some individuals avoid confronting tension (avoidant coping), some address tension by actively discussing the problem and attempting to solve it (constructive coping), and others respond by fighting or arguing with their social partners (destructive coping) [5]. Given the essential role that empathy plays in relationship maintenance and satisfaction [12], we investigated whether empathy is associated with using more adaptive coping strategies (constructive rather than destructive coping). We also drew on research that links coping strategies to daily well-being outcomes of interpersonal tensions [4, 8], and explored whether the use of more adaptive coping strategies protects the mood of those more empathic older adults when tensions occur. This study has made a unique contribution by assessing the impact of coping strategies on immediate well-being outcomes of tensions using ecological momentary assessments [13], and examining older adults' tensions within a more diverse social network (including both close and non-close social partners).

Empathy and Coping with Interpersonal Tensions

Empathy refers to emotionally sharing and cognitively understanding others' thoughts and feelings, an ability that varies between individuals and shapes their behaviors [1, 14]. As in previous research, this study viewed empathy as a completely other-oriented construct (fo-

cused on others' emotions) [10, 15]. Thus, although personal distress (e.g., internalizing others' distress) often co-occurs with, or is sometimes measured as a form of, empathy [16], it was beyond the scope of this study.

Older adults' empathy may be associated with their strategies to cope with interpersonal tensions. Davis [12] has recently integrated theories and research into empathy in the past decades and proposed an organizational model to understand a series of empathy-related processes. This model links greater overall empathy to pro-relationship motivations and behaviors (e.g., cooperation, support, and accommodation in response to others' misbehaviors), which, in turn, contribute to day-to-day relationship maintenance [17]. Such pursuit of successful social lives may motivate more empathic older adults to use constructive coping strategies (e.g., discussing and addressing issues) rather than avoidant or destructive coping strategies (e.g., "silent treatment"/withdrawal or arguing) that can often threaten relationships [5]. To date, little research has tested the association between empathy and tension coping strategies. Several studies have revealed that more empathic adolescents and young adults tend to address conflicts by solving problems, forgiving misbehavior, and engaging in fewer aggressive acts [18–20]. This study seeks to add to this growing literature with a focus on later life. We expected more empathic older adults to report using more constructive coping strategies and less avoidant or destructive coping strategies.

Empathy, Coping Strategies, Interpersonal Tensions, and Mood

Depending on the different ways in which more empathic versus less empathic individuals cope with interpersonal tensions, empathy may also play a role when these tensions arise. Theories about and research into empathy (including the new organizational model above) primarily discuss relationship (e.g., relationship maintenance or satisfaction) but not well-being outcomes. Yet, the empathy-related prosocial behaviors proposed in the model may also have implications for well-being. Our own research provided preliminary evidence that empathy buffers the effects that tensions with certain close social partners have on mood (i.e., emotional reactivity to tensions) [11]. Our study has built on this work and examined the role that older adults' tension coping strategies play in the documented buffering effect of empathy.

Indeed, although interpersonal tensions are associated with poorer daily well-being [21], this link varies, depending on how individuals respond to these tensions [4,

8]. Birditt et al. [4] found that a general preference for using constructive strategies (e.g., reappraisal or reframing of the problem) attenuated the link between daily interpersonal tensions and negative mood. By contrast, destructive strategies are often harmful for relationships [5] and likely worsen the well-being consequences of interpersonal tensions. The effects of avoidance are less clear. Some earlier studies have viewed avoidance of conflict as a beneficial coping strategy in later life [6, 7], but more recent daily studies link avoidant coping strategies with reduced well-being. The link between daily interpersonal tensions and mood seemed to be exacerbated in older adults who tended to use avoidance to regulate their emotions [4]. Moreover, avoidance seems to have a lingering effect, such that participants who avoided interpersonal tensions reported poorer emotional and physical well-being the day after [21].

The Focus of Our Study

In this study, we examined older adults' empathy and interpersonal tensions with a focus on the way older adults choose to cope with these tensions. This study uniquely asked how older adults' coping strategies are associated with immediate well-being consequences of interpersonal tensions, by tracking these tensions and mood throughout the day rather than relying on reports of tensions collected at the end of each day (as in previous research, including our own work [4]). We also looked at the role of a key facet of connections to other people, empathy, in these associations. We tested whether older adults' empathy and general preference for coping strategies moderated the association between interpersonal tensions and momentary mood in the immediate period after such tensions arose. We then examined whether coping strategies served as a mediator for the moderating effect of empathy.

Although interpersonal tensions often occur between people with close ties (e.g., romantic ties, parent-child ties, and friendships), older adults may also have stressful encounters with people they do not know well, which were rarely tested. Here, we assessed tensions with close partners and non-close partners when testing the following hypotheses (see Fig. 1 for the conceptual model):

Ho1: We expected more empathic older adults to use constructive coping strategies more often, and avoidant or destructive coping strategies less often than less empathic older adults.

Ho2a: We expected older adults' interpersonal tensions to be associated with worse mood throughout the day, and that this association would be moderated by

their empathy and coping strategies. High levels of empathy and more adaptive coping strategies may buffer older adults' mood.

Ho2b: We explored whether the moderating effect of empathy would be explained (i.e., mediated) by older adults' coping strategies for when tensions arise. That is, more empathic older adults might be able to maintain their mood because they are more likely to use constructive coping strategies and less likely to use avoidant or destructive coping strategies.

We adjusted for other factors that might be associated with older adults' empathy, coping strategies, interpersonal tensions, and mood, including participants' age, gender, education level, health, marital status, minority group status, agreeableness, and neuroticism. As people age, they are more likely to use avoidant coping, have fewer interpersonal tensions, and report better emotional well-being [6, 7, 22]. Women and better-educated adults are often more empathic [10, 15]. Healthier adults are better at regulating emotions when interpersonal tensions occur, and they report better emotional well-being [9]. Married individuals tend to experience more tensions with their close partners, especially spouses [21]. Racial or ethnic minorities are often exposed to more interpersonal tensions and show greater reactivity to these tensions [23]. We also considered agreeableness and neuroticism, both of which are associated with empathy and emotional well-being [24].

Materials and Methods

Sample and Procedures

Participants were from the Daily Experiences and Well-being Study (DEWS) conducted in 2016 and 2017. DEWS recruited 333 participants aged ≥ 65 years in Austin, TX, USA, via random digital dialing using city area codes [4]. Participants were community-dwelling and were not in paid employment for >20 hours per week. The sample was diverse, in that 33% of participants identified as racial or ethnic minorities (e.g., African-American and Hispanic). Participants were better educated (55% had a college degree or higher) than the older population in the city (45%) [25].

Of the 333 participants who completed an initial face-to-face interview, 313 (94%) took part in an intensive daily data collection over 5–6 days (i.e., 2 weekend days and 3 or 4 weekdays) and 324 filled out a paper and pencil survey (i.e., a self-administered questionnaire). During the initial interview, participants reported their demographic characteristics and rated their empathy. They also named their social partners by closeness using the Convoy Model, a hierarchical mapping technique commonly used to assess social networks [26]. The names (the full first name and the initial of the last name) of the 10 closest partners of each participant were then transferred to customized ecological momentary assessments [13] as part of the intensive daily data collection. Par-

Table 1. Descriptive information about participants

Characteristic	Participants (N = 302)		
	mean	SD	range
Age, years	73.82	6.32	65–89
Level of education	5.92	1.57	1–8
Self-rated health	3.59	1.00	1–5
Empathy	3.77	0.66	1–5
Agreeableness	3.45	0.48	1–4
Neuroticism	2.41	0.67	1–5
Tension coping strategies			
With close partners			
Avoidant	2.73	0.76	1–5
Constructive	3.55	0.73	1–5
Destructive	2.01	0.85	1–5
With non-close partners			
Avoidant	3.33	0.87	1–5
Constructive	2.90	0.87	1–5
Destructive	1.59	0.68	1–5
Interpersonal tensions over the day ^a			
With anyone	0.20	0.19	0–1
With close partners	0.14	0.16	0–1
With non-close partners	0.09	0.11	0–1
Negative mood	1.23	0.29	1–5
Positive mood	3.45	0.71	1–5
	proportion		
Female	0.55		
Married	0.59		
Ethnic or racial minority	0.30		
Non-Hispanic African-American	0.14		
Hispanic/Latino	0.15		
Others ^b	0.01		

^a Proportion of encounters viewed as negative or unpleasant.

^b American Indian, Alaska Native, and Asian.

Participants were prompted to complete these assessments programmed on Android devices provided by the study every 3 hours of each day from waking to bedtime. They indicated tensions with close partners and those with non-close partners (i.e., people not listed as the top 10 closest social partners) and rated their mood for each 3-hour period. Participants self-completed a questionnaire which was collected at the end of the study. This questionnaire measured their strategies for coping with interpersonal tensions.

The final analytic sample included 302 participants who completed the initial interview, at least 1 ecological momentary assessment (mean 20.01 [SD 6.03] and range 1–32 across the study week) and the self-completed questionnaire. These participants were younger, healthier, and less likely to be from a racial/ethnic minority group than the 31 participants who did not complete all aspects of the study; they did not differ in any other variables such as empathy or coping strategies. Participants received USD 50 for the

interview, USD 100 for the daily data collection, and USD 50 for the self-completed questionnaire (total: USD 200). Table 1 presents the descriptive characteristics of the sample.

Initial Interview and Self-Completed Questionnaire Measures *Empathy*

In the initial interview, participants rated their empathy using 5 items modified from 2 subscales of the Interpersonal Reactivity Index (empathic concern and perspective-taking) [27]. This index is a widely used measure of individual differences in empathy. Participants rated how much each of the 5 statements described them, from 1 (not at all) to 5 (a great deal). Example items included: “I often have tender, concerned feelings for people less fortunate than me” and “I sometimes try to understand other people better by imagining how things look from their perspectives.” We averaged participants’ ratings across the 5 items ($\alpha = 0.73$) [2, 11].

Close Partners

Participants listed their social partners using the Convoy Model [26]. This measure includes 3 concentric circles capturing an individual’s social network according to the level of importance and closeness. Social partners are (a) people participants feel so close to that it is hard to imagine life without them, (b) people to whom participants may not feel quite that close but are still very important to them, and (c) people participants have not already mentioned but who are close enough and important enough in their lives that these people should also be included in the diagram. Participants predominantly named family (69%) and friends (23%) as their social partners. On average, each participant reported 15 social partners (mean 15.02 and range 0–30) and we treated the top 10 (counted from the innermost circle outwards) as close partners in this study. Participants indicated their tensions with these close partners throughout the day using ecological momentary assessments. Participants also reported on tensions with people not listed as the 10 closest social partners (“non-close partners” in this study). Please see details in the Ecological Momentary Assessments Measures below.

Background Covariates

Participants also provided demographic information during the initial interview, including their age in years; gender as 1 (male) or 0 (female); physical health as 1 (poor), 2 (fair), 3 (good), 4 (very good), or 5 (excellent) [28]; level of education as 1 (no formal education), 2 (elementary school), 3 (some high school), 4 (high school), 5 (some college/vocation or trade school), 6 (college graduate), 7 (post-college but no additional degree), or 8 (an advanced degree); and marital status dichotomized as 1 (married/cohabitating) or 0 (not married/cohabitating). Participants self-identified their ethnic and racial groups and we recoded minority status as 1 (an ethnic/racial minority) or 0 (a non-Hispanic white). Minority participants in this sample were predominantly African-Americans (49%) and Hispanics (51%).

We measured the personality trait agreeableness in the self-completed questionnaire and neuroticism in the initial interview, using the validated personality measures from the Midlife in the United States (MIDUS) survey. Participants rated how well each of the 5 agreeableness items (helpful, warm, softhearted, sympathetic, and caring) [29] described them, from 1 (not at all) to 4 (a lot). They also rated the 4 neuroticism items (moody, a person who worries, nervous, or calm) [30] from 1 (not at all) to 5 (a great deal).

We calculated 2 mean scores to measure agreeableness ($\alpha = 0.77$) and neuroticism ($\alpha = 0.70$).

Coping Strategies

In the self-completed questionnaire, participants indicated their behavioral reactions when encountering interpersonal tensions. They rated how often they used each of the 6 strategies when they felt irritated, hurt, or annoyed with people they felt close to and cared about (i.e., close partners), on a scale of 1–5: 1 (never), 2 (rarely), 3 (sometimes), 4 (often), and 5 (almost always). The 6 strategies measured 3 categories: avoidant, constructive, and destructive [5]. Avoidant strategies included: “I accept that there is nothing I can do” and “I avoid talking about it with them.” Constructive strategies included “I calmly discuss it with them” and “I try to find a solution.” Destructive strategies included “I argue or fight with them” and “I yell or raise my voice at them.”

Participants rated the same tension coping questions for situations when they felt irritated, hurt, or annoyed with non-close partners (i.e., people they do not feel close to or do not know well). We present the Spearman-Brown coefficient because it is the recommended reliability indicator for 2-item scales [16]: close partners: $\rho_{\text{avoidant}} = 0.50$, $\rho_{\text{constructive}} = 0.70$, $\rho_{\text{destructive}} = 0.81$; and non-close partners: $\rho_{\text{avoidant}} = 0.59$, $\rho_{\text{constructive}} = 0.75$, $\rho_{\text{destructive}} = 0.76$.

Ecological Momentary Assessments Measures

Interpersonal Tensions

Every 3 hours, participants indicated whether they had any encounter with any close partner or any non-close partner (i.e., people not listed as the 10 closest social partners), as 1 (yes) or 0 (no). Non-close partners are primarily extended family members, friends, acquaintances, and service providers; the other approximately 15% are strangers or others. These encounters could occur in person or via phone or text. If there was an encounter, participants reported (a) whether they discussed anything stressful, as 1 (yes) or 0 (no); and (b) how pleasant this encounter was, as 1 (unpleasant), 2 (a little unpleasant), 3 (neutral), 4 (a little pleasant), or 5 (pleasant). We created a variable to indicate the occurrence of interpersonal tensions based on these variables. We coded the variable as 1 if participants had an encounter that involved discussing anything stressful and/or that was considered at least a little unpleasant. The variable was coded as 0 if participants had an encounter that was not unpleasant (i.e., neutral or at least a little pleasant) or if they did not have any encounters at all. Among the encounters where participants discussed something stressful, only 2% were viewed as neutral or pleasant (i.e., not unpleasant). We measured whether participants had any interpersonal tensions in the last 3 hours with (a) any close partners, and (b) any non-close partners, coded as 1 (yes) or 0 (no).

Mood

We measured positive and negative mood every 3 hours. Participants rated the extent to which they experienced 3 positive emotions (feeling content, loved, or calm) and 5 negative emotions (feeling nervous/worried, irritated, bored, lonely, or sad) [31], from 1 (not at all) to 5 (a great deal). We calculated mean scores for positive and negative mood for each 3-hour assessment. Given that mood was measured multiple times per day across multiple days, we calculated 3-level α coefficients for positive mood (assessment level: $\alpha = 0.44$; day level: $\alpha = 0.77$; participant level: $\alpha = 0.83$) and negative mood (assessment level: $\alpha = 0.50$; day level: $\alpha = 0.74$;

Fig. 1. Conceptual model. Hypothesis 1 examined the association between older adults’ empathy and tension coping strategies. Hypothesis 2a examined the moderating role of empathy and tension coping strategies in the association between interpersonal tensions and momentary mood throughout the day. Interpersonal tensions include tensions with close partners and tensions with non-close partners. Momentary mood includes positive mood and negative mood. Hypothesis 2b tested a possible mediated moderation effect, where empathy was the moderator and tension coping strategies served as the mediator.

participant level: $\alpha = 0.88$). These α coefficients indicate that the mood measures exhibit some variability at a given momentary assessment, but they are largely reliable on a given day for a given participant.

Analytic Strategy

We estimated bivariate correlations between empathy, coping strategies, interpersonal tensions, mood, and covariates including participants’ age, gender, education, health, marital status, minority status, agreeableness, and neuroticism (online supplementary Table 1; for all online suppl. material, see www.karger.com/doi/10.1159/000511418). We also compared participants’ preferences for avoidant, constructive, and destructive coping strategies using repeated-measures ANOVA. Online supplementary Table 2 presents results from the Bonferroni post hoc pairwise comparisons (briefly summarized in Results).

We first tested our hypothesis that more empathic older adults would use more constructive and less avoidant or destructive coping strategies than less empathic older adults (Fig. 1, marked as Ho1). Each participant reported their coping strategies for close partners and non-close partners separately. Thus, we used SAS PROC MIXED to estimate 2-level models where the type of social partner (level 1) was nested within the participant (level 2). The predictor was empathy, and the outcomes were avoidant, constructive, and destructive coping strategies (3 continuous outcomes in separate models). We also explored interaction effects by treating the type of social partner, i.e., 1 (a close partner) and 0 (a non-close partner) as the moderator. We entered a cross-level interaction term empathy (centered on the sample mean) $\times$ type of social partner into the models. We estimated simple slopes analyses for significant interaction effects.

We then tested our hypothesis that empathy and coping strategies moderated the link between interpersonal tensions and mood every 3 hours throughout the day (Fig. 1, marked as Ho2a). We

Table 2. Multilevel models predicting coping strategies according to empathy ($n = 302$), with type of social partner as a moderator

Parameter	Avoidant coping				Constructive coping				Destructive coping			
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Fixed effects												
Intercept	2.44***	0.66	2.74***	0.66	4.27***	0.68	3.95***	0.68	2.17***	0.61	1.96**	0.61
Empathy	-0.06	0.06	0.00	0.07	0.27***	0.06	0.23**	0.07	-0.18**	0.06	-0.16*	0.07
Type of social partner ^a	-	-	-0.61***	0.05	-	-	0.65***	0.05	-	-	0.42***	0.05
Empathy $\times$ type of social partner ^a	-	-	-0.11	0.08	-	-	0.08	0.07	-	-	-0.02	0.07
Covariates												
Gender	-0.29***	0.09	-0.29***	0.09	0.09	0.09	0.09	0.09	0.03	0.08	0.03	0.08
Age	0.01*	0.01	0.01*	0.01	-0.01	0.01	-0.01	0.01	-0.01*	0.01	-0.01*	0.01
Education	0.01	0.03	0.01	0.03	0.00	0.03	0.00	0.03	0.02	0.02	0.02	0.02
Health	0.02	0.04	0.02	0.04	0.03	0.04	0.03	0.04	-0.09*	0.04	-0.09*	0.04
Marital status	-0.06	0.09	-0.06	0.09	0.16	0.09	0.16	0.09	0.25**	0.08	0.25**	0.08
Minority status	-0.30**	0.09	-0.30**	0.09	0.14	0.09	0.14	0.09	-0.10	0.09	-0.10	0.09
Agreeableness	-0.16	0.08	-0.16	0.08	-0.04	0.09	-0.04	0.09	0.01	0.08	0.01	0.08
Neuroticism	0.09	0.06	0.09	0.06	-0.11	0.06	-0.11	0.06	0.22***	0.05	0.22***	0.05
Random effects												
Intercept VAR (level 2: participant)	0.12***	0.04	0.22***	0.04	0.17***	0.04	0.28***	0.04	0.14***	0.03	0.18***	0.03
Residual VAR	0.59***	0.05	0.40***	0.03	0.54***	0.04	0.33***	0.03	0.42***	0.03	0.34***	0.03
-2 log likelihood	1,528.3		1,420.9		1,511.2		1,368.0		1,377.3		1,313.5	

^a Type of social partner was coded as 1 (close partners) or 0 (non-close partners). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. VAR, variance.

estimated 3-level models using SAS PROC MIXED to account for the nested structure of data. The 3-hour assessment (level 1) was nested within the day (level 2), nested within the participant (level 3). Predictors were whether participants experienced any interpersonal tensions with (a) any close partner and (b) any non-close partner, coded as 1 (yes) or 0 (no). Outcomes were 3-hour positive and negative mood examined in separate models. The moderators were empathy and coping strategies (both centered on the sample mean).

Specifically, we first entered the interaction terms involving empathy into the models: empathy $\times$ interpersonal tensions with a close partner, and empathy $\times$ interpersonal tensions with a non-close partner. We then added interaction terms involving coping strategies: coping strategies for close partners $\times$ interpersonal tensions with a close partner, and coping strategies for non-close partners $\times$ interpersonal tensions with a non-close partner. Three categories of coping strategies were examined in separate models. We explored significant interactions with simple-slopes analysis.

Lastly, we explicitly tested whether the moderating effect of empathy on the association between tensions and momentary mood was mediated by coping strategies (Fig. 1, Ho2b, marked as a dashed line). Given our nested data, it was not appropriate to follow the classic procedure of a single-level mediated moderation test [32]. Instead, we calculated a slope for each participant, to reflect the associations between tensions and mood across assessments (i.e., this participant's emotional reactivity to tensions). We then estimated mediation tests using the bootstrapping technique in the PROCESS Macro (bootstrapped sample $n = 2,000$) [33]. We treated empathy as the predictor, coping strategies as the mediators, and reactivity slope as the outcome.

Results

Online supplementary Table 2 shows older adults' coping strategies for tensions with close and non-close partners. For tensions with close partners, older adults were most likely to report using constructive coping (mean 3.55), followed by avoidant coping (mean 2.73), and then destructive coping (mean 2.01). For tensions with non-close partners, older adults were most likely to report using avoidant (mean 3.33) and constructive coping strategies (mean 2.90), followed by destructive coping (mean 1.59).

Older adults experienced at least 1 interpersonal tension with anyone in 20% of the 3-hour assessments ($n = 1,226$). They experienced a tension with any close partner in 14% of the assessments ($n = 879$) and with any non-close partner in 9% of the assessments ($n = 545$). On average, older adults had almost 4 tensions with close partners (mean 3.75) and almost 3 tensions with non-close partners (mean 2.76) during the study week. Empathy was not associated with the number of tensions (with close partners, $r = 0.04$, $p = 0.49$; with non-close partners, $r = -0.01$, $p = 0.93$).

Fig. 2. Interaction effects of empathy $\times$ interpersonal tensions, with close partners and with non-close partners, on older adults' positive mood throughout the day.

Empathy and Coping with Interpersonal Tensions

We expected more empathic older adults to report using constructive coping strategies more often and avoidant or destructive coping strategies less often. To garner a sense of the effect size, we estimated both a pseudo R^2 and a Cohen's f^2 ; the former reflects the effect size of a set of variables (considering the whole model) and the latter the local effect size specific to the predictor of interest. Partially as expected, empathy was positively linked to constructive coping ($B = 0.27$, $p < 0.001$, $R^2 = 0.06$, $f^2 = 0.03$) and negatively linked to destructive coping strategies ($B = -0.18$, $p = 0.002$, $R^2 = 0.11$, $f^2 = 0.01$). The link between empathy and avoidant coping strategy was not significant ($B = -0.06$, $p = 0.34$; Table 2).

We also compared coping strategies for tensions with a close partner versus tensions with a non-close partner but found no significant interaction effects (Table 2).

Empathy, Coping Strategies, Interpersonal Tensions, and Mood

We first tested whether older adults' empathy moderated the link between their interpersonal tensions and mood throughout the day, using 3-level models. We observed 1 significant interaction effect of empathy and interpersonal tensions with close partners on older adults' positive mood ($B = 0.07$, $p = 0.008$, $R^2 = 0.12$, $f^2 = 0.001$; Table 3). Simple-slopes analysis revealed that these tensions predicted reduced positive mood, but the link was weaker among more empathic older adults ($B = -0.06$, $p = 0.007$) than in less empathic older adults ($B = -0.15$,

Table 3. Multilevel linear models predicting positive mood throughout the day from interpersonal tension, with empathy as a moderator ($n = 302$)

Variable	B	SE
Fixed effects		
Intercept	3.14***	0.64
Empathy	0.06	0.06
Tension with close partners	-0.11***	0.02
Empathy $\times$ tension with close partners	0.07**	0.03
Tension with non-close partners	-0.06***	0.02
Empathy $\times$ tension with non-close partners	0.03	0.64
Covariate		
Gender	-0.01	0.09
Age	-0.01	0.01
Education	-0.01	0.03
Health	0.09***	0.01
Marital status	0.25	0.09
Minority status	0.05	0.09
Agreeableness	0.39***	0.09
Neuroticism	-0.17	0.06
Random effects		
Intercept VAR (level 2: day)	0.04***	0.00
Intercept VAR (level 3: participant)	0.41***	0.04
Residual VAR	0.13***	0.00
-2 log likelihood	6,925.7	

** $p < 0.01$. *** $p < 0.001$. VAR, variance.

$p < 0.001$; Fig. 2). Interestingly, the interaction of empathy and interpersonal tensions with non-close partners was not significant ($B = 0.03$, $p = 0.37$). Interpersonal tensions were associated with increased negative mood, regardless of participants' empathy or whether the tensions occurred with close partners or non-close partners.

We also examined whether older adults' general preference for coping strategies moderated the link between interpersonal tensions and mood throughout the day. We found no interacting effect of coping strategies, and that adding these interactions did not influence the significant buffering effect of empathy.

Lastly, we explicitly explored whether older adults' strategies for coping with tension mediated the moderating effect of empathy on the association between interpersonal tensions and momentary mood. We did not observe any significant indirect effects.

Given the low reliability score of the 2-item avoidant coping measure (close partners: $\rho_{\text{avoidant}} = 0.50$; non-close partners: $\rho_{\text{avoidant}} = 0.59$), we re-estimated models for each item. The findings remained the same, i.e., empathy was not associated with avoidant coping items and neither item moderated the link between tensions and mood.

Nonsignificant findings are not shown here but are available upon request.

Discussion

Findings add to the burgeoning literature linking older adults' empathy to strong social ties, which has primarily assessed how empathy improves positive aspects of social ties [2, 3, 10]. The current study extends that work with a focus on the occurrence of interpersonal tensions in close and non-close social ties. Overall, we found that, in the face of tensions with social partners, more empathic older adults preferred using constructive coping strategies and did not rely on destructive coping strategies, compared to less empathic older adults, regardless of their closeness to social partners. Being more empathic also seems to protect older adults' positive mood during interpersonal tensions throughout the day; this was especially true when the tensions occurred with close partners.

Empathy and Coping with Interpersonal Tensions

As hypothesized, we found that the more empathic older adults reported using constructive coping strategies more often and destructive coping strategies less often. We also expected to observe differences in coping with

tensions across partners, especially among less empathic older adults. Interestingly, however, less empathic older adults did not appear to differentiate strategies when coping with tensions with close partners or non-close partners. Despite older adults' general preference to maintain close ties, less empathic older adults may be less able to focus on problem-solving without behaving aggressively.

Our findings are in line with previous research suggesting that more empathic individuals tend to focus on problem-solving in the face of conflict or stress [9, 18, 20]. Additionally, theories of empathy posit that more empathic individuals often behave more appropriately than their less empathic counterparts in social contexts [1]. This may hold true even when interpersonal tensions arise. Furthermore, more empathic individuals are more motivated to contribute to other people's welfare [12]. This motivation may prevent them from yelling at or fighting with other people, which can have a negative impact, not only on social relationships but also on people's well-being [5]. Future studies could use qualitative reports to further understand older adults' choice of coping strategies.

Empathy was not associated with the use of the avoidant coping strategy. Rusbult et al. [34] argued that avoidance can be constructive (e.g., accepting blame or tensions) or destructive (e.g., avoiding discussing problems). However, these 2 ways of avoiding tensions are grouped together in this study, which may explain the low reliability score of our avoidant coping measure. It is possible that more empathic older adults used constructive avoidance and less empathic older adults relied on destructive avoidance. The post hoc test did not find support for this possibility when using single avoidant coping items, but future research may further examine the difference between constructive and destructive avoidance. It may be the case that whether more empathic older adults choose to avoid interpersonal tensions depends on the nature of these tensions. For example, more empathic older adults are less likely to avoid interpersonal tensions when avoidance might place a social relationship under threat [5]. If the tension that arises does not threaten social relationships, they may just "let it go" to satisfy their social partners and retain the relationships. Indeed, older adults may be discussing with their social partners about something stressful but external to their relationships, such as a work problem that they find upsetting or a health-care issue. Future studies should examine older adults' interpersonal tensions, such as by recording and coding the content of these tensions objectively or asking participants to report the details of their tensions.

Empathy, Interpersonal Tensions, and Mood throughout the Day

We expected older adults' empathy to moderate the link between interpersonal tensions and momentary mood via an impact on their general preference for coping strategies. The hypothesis was partially confirmed for positive mood, in that older adults reported less positive mood when they had tensions with close partners, but the link was weaker in more empathic older adults. Findings suggest that empathy is especially crucial in maintaining positive mood rather than attenuating negative mood. More empathic older adults may inevitably feel negative emotions during interpersonal tensions, but they may be able to maintain their general positive outlook.

Yet, the buffering effect of empathy does not seem to occur via older adults' general preference for coping strategies. Also, we failed to observe a link between tensions and mood throughout the day varying according to these coping strategies. This finding is interesting because our recent research from the same project found that coping strategies moderated the link between tensions measured at the end of the day and mood averaged over the day [4]. It is possible that the benefits of coping strategies may not take effect immediately after exposure to a stressor; rather, they are more salient in longer-interval recalls (e.g., daily, monthly, or even yearly reports) [35]. It is also important to consider that individual tensions can be less salient than clusters or groups of tensions. For example, one stressful encounter may not change a person's mood, but multiple stressful encounters over the day may have a cumulative impact when measured at the end of the day. Moreover, older adults' general reports of coping strategy use do not necessarily reflect their choice of coping strategies in the moment, which may also depend on the specific situation or the other partner involved. Indeed, a small but growing body of research has examined coping flexibility (i.e., individuals' ability to switch coping strategy as they see fit according to the situation) and linked this ability to effective coping [36]. This information is lacking from the data we drew on, but future research may capture the way older adults cope with tensions as these occur in situ.

Thus, the question remains why being more empathic appears to protect older adults' positive mood during interpersonal tensions. It may still depend on the specific way, rather than how likely (which was measured in this study), more empathic older adults offer help or engage in better communication to resolve tensions [2, 13]. They may also appraise interpersonal tensions differentially. Indeed, more empathic individuals tend to forgive others'

inappropriate behaviors during social encounters and are more sensitive to others' kindness [17].

Interestingly, the buffering effect of empathy only applied to older adults' tensions with close partners, which may reflect older adults' prioritizing close ties regardless of empathy [22]. More empathic older adults may have tried just as hard to deal with tensions with non-close partners as during tensions with close partners. Yet, being able to address the issue and retain the close tie may have benefited them to a greater extent.

Limitations and Implications

Several limitations of this study warrant consideration. Interpersonal tensions involve at least 2 individuals, but we relied only on participants' self-reports of their own coping strategies and behaviors. Self-reporting can be biased due to the desire to be socially acceptable. More empathic individuals also tend to view their social experiences in a more positive manner than less empathic individuals [10]. Additionally, participants could have reported on their coping strategies any time they wanted during the study when they were indicating occurrence/nonoccurrence of interpersonal tensions multiple times per day for almost a week. Intensive daily reports may have increased participants' self-reflections on their coping strategies, but it is not clear how or to what extent such reflections potentially influenced their actual coping behavior. Moreover, the way older adults cope with interpersonal tensions and the impact on their well-being can depend on how the other person/people behave when these tensions arise. Given the homophily principle (people are attracted to similar others) [37], more empathic older adults may have suffered less from interpersonal tensions also because their social partners were less likely to argue or fight with them [38]. Future studies may utilize a dyadic approach to consider these possibilities. Lastly, although this study drew on one of the most diverse older adult samples who provided intensive ambulatory assessments, we acknowledge that the recruitment of the participants in one city only (especially one that has well-educated older adults) may have limited the generalizability of our findings.

The current study is important both theoretically and practically. It adds to the literature regarding the role that empathy plays in successful social lives. Although our analyses exhibit small effect sizes, the findings still suggest that empathy has the potential to protect older adults' well-being during negative social experiences. The study also carries practical implications for interventions and relationship therapies. Scholars have predominantly in-

corporated empathy training into interventions with health professionals who work with clinical patients [39]. To date, however, little attention has been paid to empathy training that may benefit older adults' social experiences with people they encounter in their everyday lives. Furthermore, social relationships involve both positive and negative experiences. Prior research has focused on facilitating the positive aspects of social experiences to strengthen social ties. We emphasize the importance of also considering negative experiences, which can often have a more salient effect on well-being than positive experiences do [40].

Statement of Ethics

This research complies with the guidelines for human studies. The University of Texas at Austin Institutional Review Board approved all procedures and participants provided written informed consent.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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Author Contributions

M.H. designed the study, performed statistical analyses, and wrote the manuscript. Y.T.N. offered critical revisions and rewrites for this manuscript. K.S.B. and K.L.F. assisted in conceptualizing and rewriting drafts of this manuscript. K.L.F. was the Principal Investigator on the grant that funded the study; she designed the Daily Experiences and Well-Being Study, and oversaw data collection as well as statistical analyses.

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