

Does Empathy Have a Cost? Older Adults and Social Partners Experiencing Problems

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Does Empathy Have a Cost? Older Adults and Social Partners Experiencing Problems

For Peer Review

EMPATHY AND SOCIAL PARTNERS WITH PROBLEMS

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Abstract

Background and Objectives: Empathy underlies older adults' awareness and responses to their social partners' needs, but it is unclear whether such awareness is beneficial or harmful to older adults' well-being. We examined whether older adults' empathy was associated with having encounters with social partners incurring problems and their own well-being throughout the day.

Research Design and Methods: Participants were adults aged 65+ from the Daily Experiences and Well-being Study. These older adults ($n = 313$) rated empathy and indicated social partners' problems (e.g., health, emotional and financial problems) in a baseline interview. They also reported encounters with social partners and their mood every 3 hours over 5 to 6 days.

Results: Multiple regressions showed that more empathic older adults reported a greater proportion of social partners with major life problems than less empathic older adults. Older adults' empathy was not associated with their contact or negative encounters with social partners experiencing problems. Multilevel models revealed that encounters with these social partners had negative consequences for older adults' mood throughout the day; however, these consequences were reduced in more empathic older adults.

Discussion and Implications: This study emphasizes the importance of empathy in late life and refines our understanding of older adults' social lives and well-being. Findings carry implications for interventions that aim to protect older adults' well-being when their close others incur crises.

Key words: Empathy, Problems, Mood, Ecological Momentary Assessments

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Does Empathy Have a Cost? Older Adults and Social Partners Experiencing Problems

Empathy, the ability to share and understand others' emotions, is critical to individuals' social ties and well-being (Decety & Svetlova, 2012). Because older adults place strong values on their ties to social partners (family and friends, Charles & Carstensen, 2010), empathy may be especially important in late life. Empathy may enable older adults to attend to social partners' needs and help in response to those needs. Older adults typically have social partners suffering major life problems (e.g., a disabled spouse, a divorced child or a depressed friend; Kiecolt-Glaser & Wilson, 2017). More empathic older adults may be more aware of these problems and more likely to reach out to their social partners in everyday encounters. It is less clear, however, whether the link between these encounters and older adults' well-being varies by their empathy. Prior literature documented positive aspects of empathy (Caprara et al., 2012; Decety & Svetlova, 2012), but we also consider costs of empathy. For example, more empathic older adults may report greater emotional suffering by sharing their partners' distress (Decety & Lamm, 2009; Hodges & Biswas-Diener, 2007).

Charles's (2010) Strength and Vulnerability Integration model posits that when older adults cannot avoid distress (as when more empathic older adults have encounters with social partners who have problems), they may report worse mood due to a prolonged recovery from that distress. We asked whether older adults' empathy was associated with (a) social partners' problems, (b) contact and negative encounters with these partners throughout the day, and (c) their mood when encounters occurred. Findings may carry implications for therapies and interventions, with regard to helping older adults cope with their social partners' problems while also protecting their own well-being.

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Older Adults' Empathy and Social Partners Experiencing Problems

We examined empathy as a personality-like trait that varies between individuals, which may explain the different ways older adults interact with their social partners having problems. Theories posit that empathy is a multifaceted construct including emotional and cognitive components, both of which are crucial for more empathic individuals to share others' emotions and take action more readily (de Waal, 2008; Preston & de Waal, 2002). The empathy-altruism hypothesis further argues that more empathic individuals care more about their social partners' welfare and feel more motivated to help (Batson, 2011). We drew on this model to examine how individual differences in empathy shape older adults' exposure and encounters with social partners experiencing problems.

Exposure to social partners experiencing problems. Empathy may influence older adults' exposure to their social partners' problems. Following the empathy-altruism hypothesis (Batson, 2011), more empathic older adults are more motivated to keep an eye on their social partners' everyday life. These older adults may be more aware when their social partners incur problems and less likely to abandon these partners during crises. In addition, social partners having problems may prefer disclosing problems to more empathic adults. Research suggests that more empathic individuals are more willing to devote time to social partners and offer more effective help (Batson, 2011; Verhofstadt, Buysse, Ickes, Davis, & Devoldre, 2008; Verhofstadt et al., 2016). Thus, we expected more empathic older adults would report more social partners having problems than less empathic older adults. More empathic older adults may not necessarily have more social partners with problems; rather, they may just know more about these problems.

Encounters with social partners experiencing problems. We then examined whether empathy increases older adults' contact with social partners having problems. More empathic

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3 older adults may engage in such contact more often, presumably in the hope of improving these
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5 partners' situations (Batson, 2011). Granted, some research suggests that more empathic
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7 individuals may reduce contact to avoid sharing others' distress (Decety & Lamm, 2009;
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9 Eisenberg & Eggum, 2009). Yet, this may not be the case in older adults' ties with close social
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11 partners (Charles & Carstensen, 2010). Rather, more empathic older adults may reach out to their
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13 social partners suffering problems (or social partners feel more comfortable turning to these
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15 more empathic adults), offering companionship or lending a listening ear to these partners (e.g.,
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17 Einolf, 2009; Hoffman, 2008). We expected more empathic older adults to have more frequent
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19 contact with social partners incurring problems than less empathic older adults.
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24 Moreover, we asked whether empathy influenced older adults' negative encounters with
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26 these social partners. Research suggests that individuals have more negative encounters with
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28 their family members incurring troubles (Seltzer et al., 2009). **Nevertheless**, more empathic
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30 individuals show greater understanding for their social partners' misfortunes; they are more
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32 likely to help solve problems than blaming or arguing with these partners (Batson, 2011; Carlo et
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34 al., 2012; Rizkalla, Wertheim, & Hodgson, 2008). We tested this link in older adults and
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36 expected more empathic older adults were less likely to have negative encounters with social
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38 partners incurring problems. Given that more empathic older adults may have more contact with
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40 these partners in total, we asked whether more empathic older adults had a smaller proportion of
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42 negative encounters.
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Older Adults' Empathy and Implications of Encounters for Mood

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49 Older adults suffer when they interact with social partners incurring problems in a daily
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51 context (Bourassa, Memel, Woolverton, & Sbarra, 2015; Kiecolt-Glaser & Wilson, 2017;
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53 Pillemer, Sutor, Riffin, & Gilligan, 2017). In parent-child ties, studies examined midlife parents
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3 and found spending time and having negative encounters with children who have problems are
4 associated with elevated levels of cortisol on the same and next days (Seltzer et al., 2009). In
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7 older couples, interacting with a depressed, sick or stressed spouse is demanding and associated
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10 with worse daily mood (Kiecolt-Glaser & Wilson, 2017; Roper & Yorgason, 2009). Yet, these
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12 links may vary by older adults' empathy. We examined positive and negative mood as well-
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14 being outcomes throughout the day and considered competing hypotheses.
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17 In line with the literature regarding positive aspects of empathy, more empathic older
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19 adults may find it rewarding to interact with social partners having problems. These older adults
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21 may engage in helping behaviors and problem solving during these encounters, which may
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23 improve their social partners' situations and alleviate these partners' distress (Batson, 2011;
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25 Carlo et al., 2012; Rizkalla et al., 2008; Sze, Gyurak, Goodkind, & Levenson, 2012; Verhofstadt
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27 et al., 2008, 2016). Thus, even during negative encounters, being empathic may still protect older
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29 adults' mood (i.e., maintain or increase positive mood and reduce negative mood).
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33 We also asked whether empathy had a cost (i.e., reduce older adults' well-being). A
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35 burgeoning literature suggests that sharing others' negative emotions can lead to distress or
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37 emotional burnout (Decety & Lamm, 2009; Eisenberg & Eggum, 2009). More empathic older
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39 adults may pay greater attention to their social partners' misfortunes and perceive their distress
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41 more accurately (Eisenberg & Eggum, 2009; Hoffman, 2008). It is possible that contact and
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43 negative encounters with social partners having problems burden empathic older adults more
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45 than their less empathic counterparts (i.e., increase negative mood and decrease positive mood).
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Other Factors and the Current Study

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51 We controlled for factors including older adults' age, gender, physical health, education,
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53 marital status, and minority status. Older and healthier adults report better emotional well-being
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(Charles, 2010; Charles & Carstensen, 2010). Women are more empathic than men (Beadle, Sheehan, Dahlben, & Gutchess, 2015; O'Brien, Konrath, Gruhn, & Hagen, 2013). Education may also be positively associated with empathy (Grühn, Rebucal, Diehl, Lumley, & Labouvie-Vief, 2008). African Americans are more reactive to stressors and report poorer well-being than European Americans (Cichy, Stawski, & Almeida, 2012; Rosenfield, 2012). Empathic people tend to stay in long-term marriages and married people are often happier (Cramer & Jowett, 2010; Rendall, Weden, Favreault, & Waldron, 2011).

We also included agreeableness and neuroticism. Empathy may explain why more agreeable people get along with others better than less agreeable people (Graziano, Habashi, Sheese, & Tobin, 2007; Haas, Ishak, Denison, Anderson, & Filkowski, 2015). Neuroticism is associated with low empathy (Mooradian, Davis, & Matzler, 2011) and greater daily negative affect (Robinson, Ode, Moeller, & Goetz, 2007; Roelofs, Huibers, Peeters, & Amtz, 2008).

This study tested the following hypotheses:

H1: We expected more empathic older adults to report more social partners having problems than less empathic older adults.

H2a: We expected more empathic older adults to have more frequent contact with their social partners having problems than less empathic older adults.

H2b: When in contact with social partners having problems, we expected more empathic older adults to have fewer negative encounters than less empathic older adults.

H3: We tested competing hypotheses regarding whether empathy maintained or reduced older adults' mood when they had encounters with social partners having problems.

Design and Methods

Participants were from the Daily Experiences and Well-being Study which occurred in

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2016–2017 (blinded for review). The University (name blinded for review) Institutional Review Board approved all procedures (2015-02-0123). We recruited 333 community-dwelling adults aged 65+ in the greater Austin, Texas. The screening procedure selected older adults who did not have cognitive impairment and were not employed for pay over 20 hours a week. We oversampled male and minority participants to obtain a diverse sample. Although this sample was better educated than the older population in this area (U.S. Census Bureau, 2017), we included participants from the full spectrum of socioeconomic statuses.

Participants first completed 2-hour face-to-face interviews, during which they offered their background characteristics and listed social partners using three concentric convoy circles (Antonucci, 1986). Names of the 10 closest social partners (first name and last initial) were entered into ecological momentary assessments (i.e., EMA, Shiffman, Stone, & Hufford, 2008) on Android devices provided by the study. Participants received in-depth training on filling out these assessments. EMA captured participants' behaviors and experiences every 3 hours throughout the day across 5 to 6 days (2 weekend days and 2 or 3 weekdays). We individualized these assessments for participants to indicate their encounters with each social partner. Participants also reported on their own mood in these assessments.

All participants were invited to complete EMA and 313 participants provided data for analysis ($m = 20$ assessments, $n = 6,262$ assessments). These participants were less likely to be minority ($\chi^2 = 7.19, p = .007$) but did not differ in other characteristics from the other 20 participants. Participants received \$50 for the interview and another \$100 for the EMA.

Interview Measures

Participant empathy. Participants rated their empathy using five items out of the original 8-item scale. The scale was modified from the Interpersonal Reactivity Index, a widely

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3 used measure of individual differences in empathy (empathic concern and perspective taking
4 subscales; Davis, 1983). Participants rated how much each of the statements described them
5 from 1 (*not at all*) to 5 (*a great deal*). Example items included: “I often have tender, concerned
6 feelings for people less fortunate than me” and “I sometimes try to understand other people
7 better by imagining how things look from their perspective”. Three statements were reverse-
8 coded such as, “Sometimes I do not feel sorry for other people when they are having problems”.
9 Interviewer notes and recordings revealed that most participants reported difficulties in
10 understanding these items. Thus, we excluded these three items and instead used a 5-item scale
11 in analyses. We averaged participants’ ratings across the five items ($\alpha = .73$).
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24 **Participant characteristics.** Participants reported their age in years, gender as 1 (*male*)
25 and 0 (*female*), physical health as 1 (*poor*), 2 (*fair*), 3 (*good*), 4 (*very good*) and 5 (*excellent*;
26 Idler & Kasl, 1991), education as 1 (*no formal education*), 2 (*elementary school*), 3 (*some high*
27 *school*), 4 (*high school*), 5 (*some college/vocation or trade school*), 6 (*college graduate*), 7 (*post*
28 *college but no additional degree*) and 8 (*advanced degree*), and marital status dichotomized as 1
29 (*married/remarried*) and 0 (*not married*). We recoded minority status as 1 (*ethnic/racial*
30 *minorities*) and 0 (*non-Hispanic Whites*) based on participants’ ethnic and racial identities.
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40 **Among participants who self-identified as minorities ($n = 109$), 51% of these participants were**
41 **Latinx Americans and 49% were African Americans.** As for agreeableness and neuroticism, we
42 used validated personality measures from the Midlife in the United States (MIDUS) which is a
43 national study of adults aged 25 to 74. Participants rated how well each of the five agreeableness
44 items (**helpful**, warm, softhearted, sympathetic, caring; Mroczek & Almeida, 2004) described
45 them from 1 (*not at all*) to 4 (*a lot*). They also rated the four neuroticism items (e.g., moody,
46 nervous; Lachman & Weaver, 1997) from 1 (*not at all*) to 5 (*a great deal*). We averaged the
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3 ratings across items to measure agreeableness ($\alpha = .77$) and neuroticism ($\alpha = .70$).

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5 **Social partners.** Participants named members in their social networks. In three
6 concentric circles (Antonucci, 1986), they listed social partners: (a) that they feel so close to, it is
7 hard to imagine life without them, (b) to whom they may not feel quite that close, but who are
8 still very important, and (c) whom they have not already mentioned but who are close enough
9 and important enough in their lives that these social partners should also be included.
10 Participants had 15.09 social partners (*range* = 0 to 30, primarily family and friends), which is
11 higher than in other older adult samples (e.g., $m = 11.30$ in Ajrouch, Fuller, Akiyama, &
12 Antonucci, 2017; $m = 10.82$ in Fiori, Smith, & Antonucci, 2007). To avoid fatigue, participants
13 specified characteristics of up to 10 closest social partners (Fiori et al., 2007).

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26 **Social partner life problems.** Participants indicated whether each social partner incurred
27 seven life problems during the past year (blinded for review). The problems **were** (a) health
28 problem/injury, (b) psychological problem, (c) drug or alcohol problem, (d) financial problem,
29 (d) loss of a close friend, (e) the victim of a crime, and (f) housing/neighborhood problem. Due
30 to skewed distributions of problems, we recoded a variable to measure 1 (*this social partner had*
31 *at least one problem*) and 0 (*this social partner did not have any problems*). We calculated the
32 proportion of social partners experiencing problems.

33 Ecological Momentary Assessment Measures

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44 **Encounters.** Every 3 hours, participants reported whether they had any contact with each
45 social partner as 1 (*yes*) and 0 (*no*). If they had an encounter, participants also indicated: (a)
46 whether they discussed anything stressful on 1 (*yes*) or 0 (*no*), and (b) how pleasant this
47 encounter was from 1 (*unpleasant*), 2 (*a little unpleasant*), 3 (*neutral*), 4 (*a little pleasant*) to 5
48 (*pleasant*). We recoded the second indicator as 1 if the encounter was at least a little unpleasant
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3 (score of 1 or 2) or 0 if they were not unpleasant (scores 3 through 5). Then we generated an
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5 indicator such that encounters were coded as negative if they involved discussing anything
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7 stressful and/or were considered unpleasant. In total, only 2% of encounters involved discussing
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9 something stressful but were not viewed as unpleasant.
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12 **Encounters with social partners suffering problems.** Using the variable indicating
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14 whether each social partner had at least one life problem, we generated two variables: (a) 1
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16 (*participants had contact with social partners suffering problems during the past 3 hours*) and 0
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18 (*participants did not have contact with social partners suffering problems during the past 3*
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20 *hours*), as well as (b) 1 (*participants had negative encounter with social partners suffering*
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22 *problems during the past 3 hours*) and 0 (*participants did not have negative encounter with*
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24 *social partners suffering problems during the past 3 hours*). We also calculated two proportions
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26 for analysis: (a) the proportion of 3-hour assessments in which older adults had contact with
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28 social partners having problems out of all assessments involving contact, and (b) the proportion
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30 of 3-hour assessments in which older adults had negative encounters with social partners having
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32 problems out of all assessments involving contact with these social partners.
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38 **Mood.** Participants rated the extent to which they experienced three positive emotions
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40 (content, loved, calm) and five negative emotions (nervous/worried, irritated, bored, lonely, sad;
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42 Piazza, Charles, Stawski, & Almeida, 2013). Responses were coded from 1 (*not at all*) to 5 (*a*
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44 *great deal*). We calculated averages to measure positive ($\alpha = .73$) and negative mood ($\alpha = .72$)
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46 for each participant at each 3-hour assessment.
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Analytic Strategy

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51 All models adjusted for participant age, gender, education, health, marital status, minority
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53 status, agreeableness, and neuroticism. We first examined whether more empathic older adults
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3 reported a greater proportion of social partners who had problems than less empathic older
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5 adults. We estimated a multiple regression, where participants' empathy was the predictor and
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7 the proportion of social partners with problems was the outcome.
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10 We then tested whether more empathic older adults had more contact but fewer negative
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12 encounters with social partners incurring problems throughout the day. We estimated two
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14 multiple regressions, predicting the proportion of assessments older adults had (a) contact and (b)
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16 negative encounters with social partners incurring problems. The predictor was empathy.
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19 Lastly, we examined whether empathy moderated the associations between
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21 contact/negative encounters with social partners suffering problems and mood. We estimated
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23 three-level models using SAS PROC MIXED due to nested data. The 3-hour report (*level 1*) was
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25 nested within each day (*level 2*), which was nested within each participant (*level 3*). Predictors
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27 were whether participants had (a) contact with social partners having problems as 1 (*yes*) or 0
28
29 (*no*), and (b) negative encounter with these social partners as 1 (*yes*) or 0 (*no*); predictors were
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31 analyzed in separate models. Positive and negative mood every 3 hours were outcomes in
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33 separate models (four models). To test whether these links varied by empathy, we included
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35 interaction terms between empathy (centered on the sample mean) and the social encounter
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37 variables. In the interview, 74% of participants ($n = 229$) reported having both social partners
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39 with problems and partners without problems. Thus, we controlled for whether participants had
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41 contact or negative encounters with social partners not experiencing problems in the same 3-hour
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43 interval in the same models. We explored significant interactions with simple slopes analysis.
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49 Results

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51 The vast majority (77%, $n = 241$) of participants had at least one social partner
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53 experiencing problems. These participants did not differ from the other 72 participants without
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3 social partners experiencing problems in any characteristics. Participants had contact during the
4 majority of assessments (89%) and had negative encounters during about one-fifth of all the
5 assessments. We present bivariate correlations in Table 1.
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9 10 **Hypotheses Testing**

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12 **Exposure and encounters with social partners experiencing problems.** As expected,
13 older adults' empathy was associated with a greater proportion of social partners having
14 problems ($B = 0.04, p = .04$; Table 2). We also expected more empathic older adults to have
15 more contact and fewer negative encounters with these social partners. Yet, older adults'
16 empathy was not significantly associated with having contact ($B = 0.02, p = .43$) or negative
17 encounters ($B = -0.00, p = .93$) with these social partners (not in table).
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26 **Implications for mood.** We explored whether empathy had benefits or costs on older
27 adults' mood. We expected older adults' empathy to maintain or reduce their mood when they
28 had contact or negative encounters with social partners incurring problems. We found one
29 interaction of empathy \times negative encounters on older adults' positive mood ($B = 0.10, p < .001$;
30 Table 3). Simple slopes analysis (Figure 1) revealed that older adults reported reduced positive
31 mood when they had negative encounters with social partners incurring problems; **however**, this
32 link was weaker in more empathic older adults ($B = -0.06, p < .05$) compared to less empathic
33 older adults ($B = -0.20, p < .001$). There was no significant interaction of empathy and negative
34 encounters on negative mood ($B = -0.03, p = .14$). We did not observe interactions involving
35 contact on positive mood ($B = 0.03, p = .23$) or negative mood ($B = 0.00, p = .81$, not in tables).
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49 **Post hoc tests.** We conducted lagged analyses to examine whether older adults' empathy
50 influenced the lingering effect of older adults' encounters on their mood. We found one
51 interaction: empathy \times contact on older adults' negative mood ($B = -0.05, p = .005$). Simple
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3 slopes analysis revealed that after having contact with social partners experiencing problems,
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5 more empathic older adults reported reduced negative mood in the next few hours ($B = 0.04, p =$
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7 $.04$). Less empathic older adults, however, reported increased negative mood ($B = -0.03, p = .04$).
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10 Discussion and Implications

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12 A burgeoning literature examines the downside of empathy (e.g., Decety & Lamm, 2009;
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14 Eisenberg & Eggum, 2009; Manczak, Delongis, & Chen, 2016), **but** this was the first empirical
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16 study that tested whether empathy reduces older adults' well-being when their family or friends
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18 suffer troubles. We found that more empathic older adults reported more social partners who had
19
20 major life problems but did not have more encounters with these partners throughout the day.
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22 Encounters with social partners who had problems reduced older adults' mood; **however**, this
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24 link was weaker or even reversed in more empathic older adults. Findings identify a promising
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26 role that empathy may play in family therapies and interventions that protect older adults'
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28 emotional well-being when their social partners incur problems.
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32 Older Adults' Empathy and Social Partners Experiencing Problems

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35 We expected more empathic older adults to report more social partners with major life
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37 problems and confirmed this hypothesis. Indeed, more empathic older adults are more concerned
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39 about their social partners' welfare (Batson, 2011). We relied on older adults' reports of their
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41 social partners' problems in the past year. It may be that more empathic older adults are more
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43 likely to keep their social partners' needs in mind whereas less empathic older adults do not take
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45 others' problems seriously. Further, researchers may obtain social partners' reports to examine
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47 whether they tend to disclose problems to more empathic older adults.
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52 We also expected more empathic older adults to engage in more contact and fewer
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54 negative encounters with social partners who had problems throughout the day. Surprisingly, we
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3 did not find these links. It is possible that empathy influences the content rather than the
4
5 frequency of these encounters. Research suggests that more empathic individuals tend to engage
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7 in problem solving or helping behaviors (Carlo et al., 2012; Rizkalla et al., 2008). Likewise,
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9 more empathic older adults may spend time helping their social partners having problems
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11 (blinded for review) whereas less empathic older adults criticize these partners during their
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13 encounters. This interpretation requires further exploration with more detailed accounts of older
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15 adults' daily social encounters. Researchers may ask participants what they had discussed during
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17 encounters, or capture their conversations using auditory data.
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21 **Older Adults' Empathy and Implications of Encounters for Mood**

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24 We also raised competing hypotheses and asked how empathy was associated with older
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26 adults' mood during contact and negative encounters with social partners experiencing problems.
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28 Findings suggest that more empathic older adults are less reactive to their negative encounters
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30 with social partners having problems compared to less empathic older adults. This may be
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32 because more empathic older adults are better able to "stand in these social partners' shoes" and
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34 understand these partners' struggles. By contrast, less empathic older participants may blame
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36 their social partners for what these partners are suffering (Batson, 2011). Further, helping
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38 behaviors likely co-occur even when more empathic older adults have negative encounters with
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40 their social partners having problems. For example, more empathic older adults may focus on
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42 addressing their social partners' problems rather than ruminating about their social partners'
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44 problems (Batson, 2011; Carlo et al., 2012; Rizkalla et al., 2008).
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49 We also explored lingering consequences of these encounters. Research showed that
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51 interacting with adult children who suffered problems negatively influenced midlife and older
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53 parents' emotional and physical well-being the next day (Barker, Greenberg, Seltzer, & Almeida,
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3 2012). We found that empathy reversed this link. More empathic older adults received lasting
4 benefits from contact with their social partners experiencing problems whereas less empathic
5 older adults suffered from such contact. More empathic older adults may utilize their everyday
6 encounters to check in with their social partners' situations, which may bring these older adults
7 comfort and emotional rewards.
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Limitation and Implications

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16
17 Several limitations in this study warrant consideration. This study drew on a relatively
18 small sample from a small geographic area of the United States, where older adults are highly
19 educated. Yet, this is the most diverse sample available to examine older adults' daily
20 experiences. Also, due to the complexity of the Daily Experiences and Well-being Study, our
21 participants may be more social and positive than the general older population. We did not
22 measure participants' own problems using the same items, but we adjusted for their education
23 and health which are highly associated with life problems (Conger et al., 2010). We used older
24 adults' self-reports of social experiences and well-being, which may be positively biased. A daily
25 diary study tracked participants aged 21 to 89 across 7 days and found that more empathic
26 participants regarded their encounters as more positive and meaningful (Grühn et al., 2008).
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EMPATHY AND SOCIAL PARTNERS WITH PROBLEMS

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3 This study carries practical implications by identifying a promising role that empathy
4 may play in family therapies and health-promotion interventions. Researchers have successfully
5 improved young children's empathy via interventions (Eisenberg, Eggum, & Giunta, 2010;
6 Fonagy et al., 2009). **Nevertheless**, similar empathy training has rarely been implemented in
7 older populations. Our findings emphasize that interventions targeting older adults should also
8 incorporate empathy training to benefit their social experiences and well-being. Prior empathy
9 trainings in younger populations have incorporated role playing with a virtual figure to
10 understand others' emotions. Given that older adults prioritize their social ties with close family
11 and friends, it may be more effective to train older adults' empathy in real-life settings. Most
12 older adults have beloved social partners who incur major life problems, which likely hurts these
13 older adults (Pillemer et al., 2017). Empathy training may focus on increasing older adults'
14 awareness to their social partners' problems and have the potential to improve their behaviors in
15 response. For instance, training older adults' empathy may equip them with better skills to
16 communicate with their social partners and offer help in a more considerate way (Batson, 2011).
17 Moreover, increasing empathy, and the helping behaviors that accompany it, may build older
18 adults' resilience in the face of social stressors.

19
20 In conclusion, this study extends the literature by showing how empathy shapes older
21 adults' social experiences involving their friends and family who incur problems. We found that
22 being empathic exposed older adults to a greater number of these social partners with problems
23 and also protected their well-being during encounters with these partners. Findings offer new
24 insights into family therapies and health-promotion interventions, emphasizing the importance of
25 empathy in promoting successful aging.

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EMPATHY AND SOCIAL PARTNERS WITH PROBLEMS

Table 1

Descriptive Information of Participants (n = 313) and Correlations between Measures

Characteristics	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.
1. Age	73.94	6.38	–						
2. Education ^a	5.88	1.61	-0.07	–					
3. Health ^b	3.56	1.02	-0.04	0.30***	–				
4. Empathy ^c	3.77	0.66	-0.07	0.12*	0.01	–			
5. Agreeableness ^d	3.46	0.48	-0.03	-0.03	0.01	0.33***	–		
6. Neuroticism ^e	2.42	0.69	-0.13*	-0.09	-0.25***	-0.05	-0.13*	–	
7. % of contact ^f	0.36	0.38	0.03	0.08	-0.12*	0.08	0.09	0.12*	–
8. % of negative encounters ^f	0.10	0.19	-0.10	0.04	-0.09	0.08	0.06	0.16**	0.65***
9. Positive mood ^g	3.47	0.80	-0.10	-0.03	0.09	0.13	0.23***	-0.09	0.01
10. Negative mood ^g	1.21	0.39	-0.03	-0.02	-0.22	0.05	-0.04	0.37***	0.10
	<i>Proportion</i>								
11. Females	.56		0.02	0.17**	0.04	-0.12*	-0.27***	0.02	-0.05
12. Marital status ^h	.59		-0.23***	0.16**	0.03	-0.02	-0.12*	0.14*	-0.05
14. Minority ⁱ	.31		-0.12*	-0.36**	-0.35***	0.01	0.03	0.14*	-0.02
14. Partners with problems ^j	.77		0.05	0.05	0.03	0.05	0.08	0.06	0.52***

Note. Data source: Daily Experiences and Well-being Study.

^a1 (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), and 8 (advanced degree). ^b1 (poor), 2 (fair), 3 (good), 4 (very good), and 5 (excellent). ^cAveraged ratings of five items from 1 (not at all) to 5 (a great deal). ^dAveraged ratings of five agreeableness items (e.g., helpful, considerate) on 1 (not at all), 2 (a little bit), 3 (somewhat), 4 (a lot). ^eAveraged ratings of four neuroticism items (e.g., moody, nervous) on 1 (not at all), 2 (a little bit), 3 (somewhat), 4 (quite a bit), and 5 (a great deal). ^fPercentage of contact/negative encounters with social partners who had problems. ^gAveraged ratings of four positive items (e.g., calm, proud) and five negative items (e.g., nervous, irritated) from 1 (not at all) to 5 (a great deal). ^hCoded as 1 (married/remarried), and 0 (not married). ⁱCoded as 1 (an ethnic or racial minority), and 0 (not a minority). ^jPercentage of participants who had at least one social partner with problems.

EMPATHY AND SOCIAL PARTNERS WITH PROBLEMS

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Table 1 – Continued

Descriptive Information of Participants (n = 313) and Correlations between Measures

Characteristics	<i>M</i>	<i>SD</i>	8.	9.	10.	11.	12.	13.	14.
1. Age	73.94	6.38							
2. Education ^a	5.88	1.61							
3. Health ^b	3.56	1.02							
4. Empathy ^c	3.77	0.66							
5. Agreeableness ^d	3.46	0.48							
6. Neuroticism ^e	2.42	0.69							
7. % of contact ^f	0.36	0.38							
8. % of negative encounters ^f	0.10	0.19	–						
9. Positive mood ^g	3.47	0.80	-0.01	–					
10. Negative mood ^g	1.21	0.39	0.19**	-0.07	–				
	<i>Proportion</i>								
11. Females	.56		-0.09	-0.05	-0.02	–			
12. Marital status ^h	.59		-0.03	0.04	-0.04	0.40***	–		
13. Minority ⁱ	.31		-0.05	0.07	0.02	-0.00	-0.01	–	
14. Partners with problems ^j	.77		0.40***	0.02	0.11	-0.09	-0.06	-0.06	–

Note. Data source: Daily Experiences and Well-being Study.

^a1 (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), and 8 (advanced degree). ^b1 (poor), 2 (fair), 3 (good), 4 (very good), and 5 (excellent). ^cAveraged ratings of five items from 1 (not at all) to 5 (a great deal). ^dAveraged ratings of five agreeableness items (e.g., helpful, considerate) on 1 (not at all), 2 (a little bit), 3 (somewhat), 4 (a lot). ^eAveraged ratings of four neuroticism items (e.g., moody, nervous) on 1 (not at all), 2 (a little bit), 3 (somewhat), 4 (quite a bit), and 5 (a great deal). ^fPercentage of contact/negative encounters with social partners who had problems. ^gAveraged ratings of four positive items (e.g., calm, proud) and five negative items (e.g., nervous, irritated) from 1 (not at all) to 5 (a great deal). ^hCoded as 1 (married/remarried), and 0 (not married). ⁱCoded as 1 (an ethnic or racial minority), and 0 (not a minority). ^jPercentage of participants who had at least one social partner with problems.

EMPATHY AND SOCIAL PARTNERS WITH PROBLEMS

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Table 2

*Multiple Regression Predicting the Proportion of Social Partners Experiencing Problems from**Participant Empathy*

Parameter	Without Covariates		With Covariates	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Intercept	0.04	0.07	-0.10	0.22
Participant empathy ^a	0.06**	0.02	0.04*	0.02
<u>Covariates</u>				
Participant age	—	—	0.00	0.00
Participant gender ^b	—	—	-0.03	0.03
Participant education ^c	—	—	0.02	0.01
Participant self-rated health ^d	—	—	-0.03*	0.01
Participant marital status ^e	—	—	-0.06	0.03
Participant minority status ^f	—	—	-0.01	0.03
Participant agreeableness ^g	—	—	0.04	0.03
Participant neuroticism ^h	—	—	0.04*	0.02
<i>F</i>	8.55**		3.45***	
<i>Adjusted R</i> ²	.02		.06	

Note. Data source: Daily Experiences and Well-being Study. Participants $n = 313$, social partners $n = 4,724$.

^aAveraged ratings of five empathy items on 1 (*not at all*), 2 (*a little bit*), 3 (*somewhat*), 4 (*quite a bit*), and 5 (*a great deal*). ^b1 (*male*) and 0 (*female*). ^c1 (*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 (no additional degree)*), and 8 (*advanced degree*). ^d1 (*poor*), 2 (*fair*), 3 (*good*), 4 (*very good*), and 5 (*excellent*). ^e1 (*not married*) and 0 (*married/remarried*).

^fCoded as 1 (*racial or ethnic minority*) and 0 (*not a minority*). ^gAveraged ratings of five agreeableness items (e.g., helpful, considerate) on 1 (*not at all*), 2 (*a little bit*), 3 (*somewhat*), 4 (*a lot*). ^hAveraged ratings of four neuroticism items (e.g., moody, nervous) on 1 (*not at all*), 2 (*a little bit*), 3 (*somewhat*), 4 (*quite a bit*), and 5 (*a great deal*).

* $p < .05$. ** $p < .01$. *** $p < .001$.

EMPATHY AND SOCIAL PARTNERS WITH PROBLEMS

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Table 3

Older Adults' Empathy Moderating the Link between Negative Encounters and Positive Mood throughout the Day

Parameter	Without Covariates		With Covariates	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Intercept	3.45***	0.04	3.13***	0.64
Participant empathy ^a	0.17**	0.06	0.07	0.06
Negative encounters with partners having problems ^b	-0.14***	0.02	-0.13***	0.02
Empathy ^a × Negative encounters ^b	0.10**	0.03	0.10***	0.03
Covariates				
Negative encounters with partner not having problems ^b	—	—	-0.07***	0.02
Participant age	—	—	-0.01	0.01
Participant gender ^v	—	—	-0.01	0.09
Participant education ^d	—	—	-0.01	0.03
Participant self-rated health ^e	—	—	0.09***	0.01
Participant marital status ^f	—	—	0.25**	0.09
Participant minority status ^g	—	—	0.04	0.09
Participant agreeableness ^h	—	—	0.39***	0.09
Participant neuroticism ⁱ	—	—	-0.17**	0.06
Random effects				
Intercept VAR (Level 2: Day)	0.05***	0.00	0.04***	0.00
Intercept VAR (Level 3: Participant)	0.46***	0.04	0.41***	0.04
Residual VAR	0.13***	0.00	0.13***	0.00
-2 log likelihood	7182.0		6940.9	

Note. Data source: Daily Experiences and Well-being Study. Participants $n = 313$, social partners $n = 4,724$.

^aAveraged ratings of five empathy items on 1 (*not at all*), 2 (*a little bit*), 3 (*somewhat*), 4 (*quite a bit*), and 5 (*a great deal*). ^b1 (*had negative encounters with social partners (not) experiencing problems*), and 0 (*did not have negative encounters with social partners (not) experiencing problems*). ^c1 (*male*) and 0 (*female*). ^d1 (*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 (no additional degree)*), and 8 (*advanced degree*). ^e1 (*poor*), 2 (*fair*), 3 (*good*), 4 (*very good*), and 5 (*excellent*). ^f1 (*not married*) and 0 (*married/remarried*). ^gCoded as 1 (*racial*

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3 *or ethnic minority*) and 0 (*not a minority*). ^hAveraged ratings of five agreeableness items (e.g., helpful, considerate) on 1 (*not at all*), 2
4 (*a little bit*), 3 (*somewhat*), 4 (*a lot*). ⁱAveraged ratings of four neuroticism items (e.g., moody, nervous) on 1 (*not at all*), 2 (*a little*
5 *bit*), 3 (*somewhat*), 4 (*quite a bit*), and 5 (*a great deal*).

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7 * $p < .05$. ** $p < .01$. *** $p < .001$.
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For Peer Review

EMPATHY AND SOCIAL PARTNERS WITH PROBLEMS

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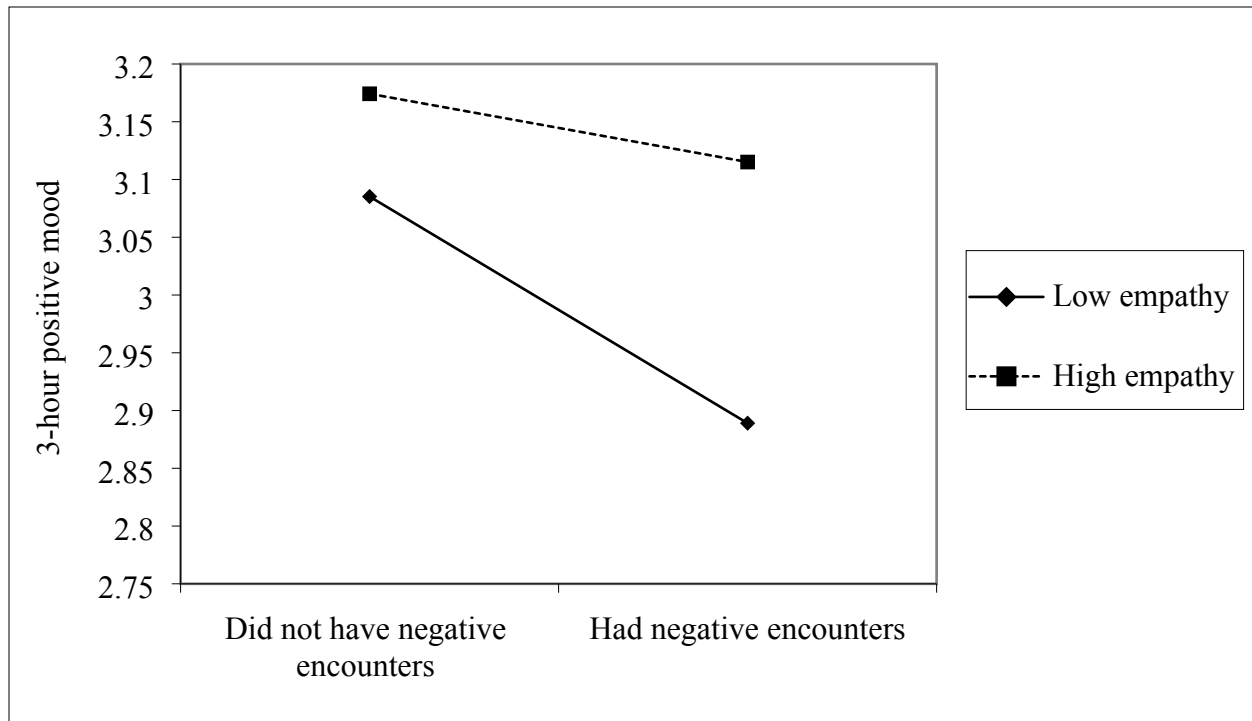


Figure 1. Interaction effects of empathy \times negative encounters with social partners having problems on older adults' positive mood throughout the day.