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Recalling support provision decreases distress and anger in response to partner suffering

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Abstract

Objectives—Thinking about a loved one's suffering can be emotionally stressful and have negative effects on a person's psychological and physical health over time. This study examined the hypotheses that when thinking about a partner's suffering (1) recalling past support provision to the suffering partner can decrease distress and anger and increase compassion, and (2) attachment orientation moderates these effects.

Method—Seventy-seven older adult spouses of individuals with chronic pain were video-recorded while they disclosed: (1) an instance of partner suffering and (2) an instance of partner suffering plus their support provision. Compassion for the partner and their own distress and anger were self-reported immediately after each account. Accounts were coded for statements of support. Attachment was assessed with the Experiences with Close Relationships measure.

Results—As hypothesized, distress and anger were lower in the 'suffering with support' condition versus the 'suffering only' condition. There was no evidence that attachment orientation significantly moderated the effect of support recollection on emotional responses; however, more avoidant individuals reported less compassion and anger and used more words reflecting anger across conditions. More anxiously attached individuals reported greater compassion across conditions.

Conclusion—When thinking about a partner's suffering, there are attachment-related differences in emotional reactions. Yet, regardless of these differences, it may be adaptive for spouses to think about their role in providing support to their partner to decrease their own negative emotions.

Keywords

Support; marriage; attachment; emotion; pain

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Introduction

Research shows that perceived partner suffering can negatively impact a person's psychological and physical health over time (Monin & Schulz, 2009). Perceptions of partner suffering have been associated with an increased risk of clinical depression and cardiovascular disease (Schulz et al., 2009), and there is experimental evidence that perceived partner suffering increases older adults' cardiovascular reactivity and personal distress (Monin et al., 2010). The aim of this study was to understand how spouses can decrease their negative emotions and increase their compassion in response to partner suffering in daily life.

Although distress often motivates caregiving behavior (Keltner & Gross, 1999), there may be times when distress becomes overwhelming for spouses, leading to caregiver burnout (Omdahl & O'Donnell, 1999). Strategies such as cognitive reappraisal (Gross, 2001), focusing on positive emotions (Fredrickson & Levenson, 1998), and benefit-finding (Kim, Schulz, & Carver, 2007) can be effective for decreasing distress. Other strategies may also be beneficial.

Recently, in the informal caregiving literature there has been a focus on the benefits of helping for caregivers (Poulin et al., 2010). This work draws from earlier experiments manipulating prosocial behavior and well-being (Schwartz & Sendor, 1999) and studies demonstrating the benefits of volunteerism (Post, 2007). In this study, we extend this idea and explore whether a cognitive strategy, thinking about having provided help, might also have psychological benefits for spouses of older adults with chronic pain. Specifically, we examine (1) whether recalling support provision to a suffering partner decreases a person's negative emotions and increases compassion and (2) the extent to which attachment orientation moderates the effectiveness of thinking about support provision as a way to decrease negative emotions and increase compassion.

We draw from multiple relationship theories (Clark, Graham, Williams, & Lemay, 2008; Clark & Mills, 1979; Crocker & Canevello, 2008) to argue that invoking thoughts about support provision to a suffering partner has the potential to activate feelings of love, self-affirm one's identity as a caring person, and shift the focus to the well-being of the relationship, all of which may provide psychological benefits to the spouse. We also draw from attachment theory (Bowlby, 1982) to suggest that thinking about support provision may impact spouses' emotions differently according to their attachment orientations.

Why might thinking about support provision decrease distress and anger and increase compassion?

Taking a relational perspective has psychological benefits for the self. According to communal relationships theory, feeling intrinsically responsible for the welfare of another and attending to the other's needs non-contingently is a way of expressing love and increasing trust that one is loved in return (Clark & Mills, 1979; Clark et al., 2008). According to an ecosystem compassionate goal perspective, when people think about their

support provision they are thinking about the benefits for the relationship in a zero-sum manner, viewing benefits for both the partner and the self (Crocker & Canevello, 2008).

There may also be egoistic advantages to thinking about support provision. For instance, it provides an opportunity to self-affirm that one is a caring person, shown to increase feelings of love and connection to others (Crocker, Niiya, & Mischkowski, 2008). It may also increase perceived caregiving self-efficacy, a predictor of less caregiving stress (Zeiss, Gallagher-Thompson, Lovett, Rose, & McKibbin, 1999). Thus, we hypothesize that thinking about support provision in response to partner suffering will decrease feelings of (1) distress and (2) anger and (3) increase compassion (Hypothesis 1).

Attachment orientation as a moderator

According to attachment theory, people develop enduring cognitive schemas (attachment orientations) based on interactions with caregivers in early life that guide behavior and expectations in other relationships until the end of life (Bowlby, 1982). Attachment systems are considered relevant to caregiving, encompassing both care receipt as well as care provision (Fiori, Consedine, & Merz, 2011). Although attachment orientations can be measured multiple ways, we use the two dimension approach commonly used in the close relationships literature (Brennan, Clark, & Shaver, 1998). The anxiety dimension assesses the degree to which the self is perceived to be unworthy of love and the degree to which the individual is worried about being rejected by others. The avoidance dimension assesses the degree to which individuals are uncomfortable with intimacy and dependence on others (Brennan et al., 1998). People are considered to be secure when they are low on anxiety and avoidance dimensions.

Little attention has been paid to attachment in older adulthood, but research with older adult samples is growing (Magai, Frias, & Shaver, 2016). Compared to younger adults, older adults are more likely to be avoidantly attached (Magai et al., 2016) and use dismissive emotion regulation strategies, minimizing or restricting the conscious experience of threatening negative emotions (Consedine, Fiori, & Magai, 2012). It has also been suggested that attachment-related concerns change over the lifespan (Consedine et al., 2012). This paper examines attachment orientation and emotional processes in the context of support interactions between spouses dealing with a partner's pain, a context that becomes increasingly common in older adulthood (Helme & Gibson, 2001) and is increasingly being studied from an attachment perspective (Meredith, Ownsworth, & Strong, 2008).

Anxious attachment

Research has shown that anxious attachment relates to how people provide support and react to others' distress. Consistent with the notion that anxiously attached individuals are constantly seeking proximity to close others (Cassidy, 2000), observational studies of younger adults show that more anxiously attached individuals engage in high levels of support provision to partners in the laboratory, but only when their partner's needs are clear (Collins & Feeney, 2010). Although there is research on attachment and how older adults exchange support in their social networks (Fiori et al., 2011), to our knowledge no research

has examined how attachment anxiety relates to support provision among older adults when thinking about a specific social support interaction with their spouse.

In terms of emotional experiences, anxiously attached individuals generally report more negative emotions (Consedine & Fiori, 2009; Consedine et al., 2012) but not more or less compassion (Mikulincer, Shaver, Gillath, & Nitzberg, 2005). In the context of partner pain, anxiously attached older adult spouses report more distress in response to their partner's pain than spouses who are less anxiously attached (Monin, Schulz, Feeney, & Cook, 2010). It is thought that this is due to their hyper-arousal to threat (Cassidy, 2000) and an increased attention to one's own needs (Mikulincer & Shaver, 2010). Although anxious individuals are prone to feel anger, they tend not to express it to close others (Rholes, Simpson, & Oriña, 1999).

We hypothesized that more anxiously attached spouses would talk more about the support they provided than less anxiously attached spouses (Hypothesis 2a), and, replicating previous findings regarding the main effects of anxious attachment, they would report more distress and anger but not more or less compassion when talking about their partner's suffering (Hypothesis 2b). We also hypothesized that more anxiously attached individuals would benefit from recalling support provision more than spouses low in attachment anxiety (Hypothesis 2c), as imagining support provision may reduce their tendency to focus on their own insecurity and negative emotions.

Avoidant attachment

Research consistently shows that people high in avoidant attachment offer less support to their partners than people low in avoidant attachment (Feeney & Collins, 2001; Fiori et al., 2011; Simpson, Rholes, & Nelligan, 1992). Avoidant individuals' discomfort with closeness and negative working models of others are thought to interfere with their care provision (Cassidy & Kobak, 1988; Mikulincer et al., 2005). In terms of their emotional reactions to others' distress, avoidant individuals often report less distress (Fraley & Shaver, 1997) and compassion (Mikulincer et al., 2005). Instead, they express more anger (Consedine & Fiori, 2009) especially when their partners express more anxiety in social support interactions (Rholes et al., 1999). Thus, we hypothesized that spouses high in avoidant attachment would talk less about their support provision than spouses low in avoidant attachment (Hypothesis 3a). We also hypothesized main effects of avoidant attachment that more avoidantly attached spouses would report less distress and compassion but more anger when recalling their partner's suffering (Hypothesis 3b). Our questions regarding the moderating effects of avoidant attachment were exploratory. It is possible that invoking one's caregiving system compensates for habitually avoiding others' needs. Conversely, it may exacerbate one's discomfort with providing support to others (Cassidy & Kobak, 1988).

The present study

In an experiment, we asked spouses of individuals with chronic pain to provide verbal accounts of (1) an episode in which their partner was suffering and (2) an episode in which their partner was suffering and how they provided support to the partner. We compared self-reported emotions between the two accounts. To measure thoughts about support provision,

the support accounts were coded for the number of unique support statements. We also used the text analysis program, Linguistic Inquiry and Word Count (LIWC) (Pennebaker, Mayne, & Francis, 1997) to examine emotion word use in each account.

Method

Participants

Seventy-seven individuals with a self-reported musculoskeletal condition (i.e. osteoarthritis, lower back pain), referred to as ‘partners’, and their heterosexual spouses, referred to as ‘spouses’, participated in a multi-phase study to examine the effects of support provision on cardiovascular reactivity. The present hypotheses and analyses do not overlap with those of the four other papers from this multi-method study of 77 couples in which one person had chronic pain (Mitchell, Levy, Keene, & Monin, 2015; Monin, Chen, & Stahl, 2016; Monin, Levy, & Kane, 2015; Monin, Zhou, & Kershaw, 2014). Here, we focus on the results of one component of the multi-method study, an experiment in which support recollection was manipulated during spouses' speeches of their partner's suffering and spouses' emotional responses were examined.¹

In this study, we focus only on the spouses. Participants were recruited from newspaper advertisements and community bulletins. Eligibility criteria was as follows: (1) the individual with a musculoskeletal condition had to be over 50 years old; (2) the couple had to be married or in a marriage-like relationship and live together for at least 6 months; (3) the spouse could not have a musculoskeletal condition; and (4) if the spouse had another chronic condition that caused pain, the spouse had to have less pain on average than the individuals with musculoskeletal conditions. Three spouses indicated at the lab session that they had osteoarthritis or lower back pain. Excluding them from analysis did not significantly change the results. Participants also completed the Short Portable Mental Status Questionnaire – Mini-Mental State Examination (SPMSQ) (Pfeiffer, 1975), to evaluate their cognitive functioning, and those who correctly answered at least 7 out of 10 items were considered to be eligible for the study. Spouses who were taking beta-blockers, a class of drug affecting heart rate, were excluded. See Table 1 for previously reported sample descriptive statistics (Monin et al., 2016; Monin et al., 2014).

The mean age of spouses was 64.81 (SD = 8.41), and the mean age of persons with pain was 65.90 (SD = 7.88). The persons with pain reported that they had been experiencing chronic pain for 10.31 years on average (SD = 10.81, range = 0–53). Despite reporting a musculoskeletal condition in the eligibility interview, three individuals reported in the background questionnaire they had a musculoskeletal condition for 0 months. Sixty-seven

¹The Monin et al. (2016) study examined the association between physical activity of persons with pain and their spouses' physical activity, how physical activity related to one's own and one's partner's depressive symptoms, and whether the similarity of partners' physical activity related to each partner's depressive symptoms using the actor–partner interdependence model. The Mitchell et al. (2015) study was a mixed methods study of the suffering speeches that examined the extent to which describing a partner's suffering as interpersonal and involving family members was associated with high blood pressure reactivity and self-reported distress. The Monin, Levy, and Kane (2015) study examined marital satisfaction and gender (assessed in the background surveys) as moderators of the association between perceived spousal suffering and daily emotional contagion in a subsample of 45 spouses that also completed 7 daily telephone interviews. The Monin, Zhou, and Kershaw (2014) study used the actor–partner interdependence model to examine the extent to which attachment related to one's own (actor effect) and one's partner's (partner effect) depressive symptoms and marital satisfaction in the background surveys for all 77 dyads.

(87.01%) reported that they had been suffering from osteoarthritis in at least one location. Fifty (64.90%) reported arthritis in a second location. Twenty-nine (38%) reported their primary site of pain to be knees, 12 (18%) back, 10 (13%) feet or ankles, 7 (10.4%) hips, 7 (10.4%) hands/fingers, and 2 (3%) shoulders. The remaining participants reported having lower back pain without arthritis.

Procedure

The overarching aims of the parent study were to examine (1) whether providing support to a partner decreases the support provider's emotional and physiological distress when exposed to the partner's suffering and (2) how individual differences (e.g. gender, relationship factors) and partner responses to support influence whether spouses emotionally benefit from providing support. Both partners separately completed background questionnaires in the laboratory assessing the following psychosocial variables: demographics, physical and psychological conditions, medications, health behaviors, pain, typical pain expression, attachment styles, marital satisfaction, depressive symptoms, support behaviors and support strain. Both partners also completed separate tasks in the lab with 10 minutes breaks in between. The spouses were videotaped and had their heart rate and blood pressure monitored during (1) a rest period, (2) while watching their partner complete a grocery carrying task while they gave verbal emotional support, (3) during a recovery period after receiving a note from the partner with pain, (4) talking about a time their partner was suffering, and (5) talking about a time their partner was suffering and they provided support. Each task lasted three minutes. Spouses also self-reported emotions after each task. Partners with pain completed only the grocery task and wrote a brief note to their spouse, but waited in a separate room during the other tasks. In addition, 45 of the 77 couples participated in a 7-day daily phone interview assessing perceived suffering, stress, physical symptoms, support behaviors, and perceptions of partner appreciation starting the evening after the lab visit.

Here, we provide details of the procedures relevant to the present study hypotheses. For the verbal account task, the spouse was seated alone in a room in a comfortable reclining chair and was asked to talk about two instances of their partner's suffering while being videotaped. Each account was recorded for three minutes. Three minutes was chosen as this timeframe allows for three blood pressure readings, an outcome of the parent study, without inducing physical discomfort due to cuff pressure. The partner with pain and the experimenter were not in the room with the spouse. The instructions for the two verbal accounts were

1. 'Now I would like you to think about a time when you felt that your partner was suffering. By suffering, we mean being in physical discomfort or experiencing pain, feeling psychologically distressed, or upset about the meaning or purpose of life. When you are thinking about this experience, please focus on your partner's suffering and not any help you may or may not have given your partner'.
2. 'Now I would like you to think about a time when you felt that your partner was suffering and you gave him or her emotional support in some way. By suffering, we mean being in physical discomfort or experiencing pain, feeling

psychologically distressed, or upset about the meaning or purpose of life. By emotional support, we mean providing your partner with physical comfort, encouragement, advice, or anything that you did to help your partner feel better. Please also discuss how helpful you think your support was to your partner. How much did it relieve your partners suffering?'

The verbal accounts were counter-balanced with instructional order randomly assigned. There were no instances in which the same event was recounted twice.

Measures

Self-reported emotions—The spouse rated 12 adjectives indicative of compassion, anger, and distress on a scale from 1 (not at all) to 7 (extremely) after each verbal account. The adjectives for compassion were compassionate, soft-hearted, touched, and sympathetic. For anger, they were: angry, hostile, annoyed, and frustrated. For distress: distressed, disturbed, uneasy, and troubled. See Table 2 for descriptive statistics for each emotion. For compassion, the Cronbach's α were all greater than .86. For anger, they were greater than 0.70, and for distress, they were greater than 0.87. We ran exploratory analysis to identify outliers with box plots for each variable. There were no outliers for distress or compassion. There were four outliers for anger in the suffering condition and eight in the support condition. We re-ran analysis without outliers for the compassion analysis, and we re-ran log transformed variables in the anger analyses. Results did not significantly change. For the attachment measures, there was one outlier for the attachment anxiety score, and two outliers for the attachment avoidance score. Removing these data points from the analyses also did not significantly change the results.

Attachment orientation—Spouses rated their feelings about their relationship with their partner using a modified 26-item version of the Experiences in Close Relationships Scale (Brennan et al., 1998). This measure assesses attachment anxiety (i.e. 'I worry a lot about my relationship with my partner.') and attachment avoidance (i.e. 'I am nervous when my partner gets too close to me.'). Participants responded using a 7-point scale for each item (i.e. 1 = disagree strongly; 7 = agree strongly). The Cronbach's α for attachment anxiety was 0.82 and for avoidance it was 0.77. The mean and the standard deviation for attachment avoidance was 2.36 (range = 1–5.33, SD = 1.03, skewness = 1.02); for attachment anxiety it was 2.46 (range = 1–5.07, SD = 0.96, skewness = 0.78).

Coding

Support provision statements—Each verbal account was coded by two independent coders for the quantity of statements about providing support to the partner. This included any type of emotional, informational, or instrumental assistance or help. The number of unique statements was summed to form a score for each account. The kappas indicated good inter-rater reliability (0.79 for the no support verbal accounts and 0.77 for the support verbal account).

Relative severity of the suffering topic—To ensure that there were no systematic differences between the support and suffering accounts in terms of the severity of the

suffering topic, two independent coders blinded to the study hypotheses used an adapted version of the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967). The SRRS assigns values to 43 stressful life events (e.g. surgery, loss of a family member) based on norms established in large study samples. The kappas were 0.91 for the suffering and 0.94 for the support speech.

Negative emotion word use—The LIWC text analysis program (Pennebaker et al., 1997) was used to examine the extent to which participants used negative emotions in their speeches. We examined the categories of anger (e.g. ‘angry’, ‘frustrated’), anxiety (‘anxious’, ‘nervous’), and sadness (e.g. ‘cried’). The program does not have a category for compassion. Although there are some limitations to using LIWC (Schwartz et al., 2013), the program, which counts the use of words associated with various meanings, has been evidenced as a reliable and valid tool to help evaluate the meaning of language (Pennebaker & Stone, 2003).

Statistical analysis

First, we examined whether there were significant differences in topic severity, amount of words, and support statements between speeches using repeated measures general linear models. Results revealed no significant differences in topic severity between the suffering only ($M = 53.63$, $SD = 10.97$) and the support condition ($M = 55.18$, $SD = 7.95$; $F(1, 87.11) = 1.11$, $p = 0.30$). The difference in word count was not significant ($F(1, 19,002.22) = 3.66$, $p = 0.06$). The mean was 366.07 ($SD = 125.87$) for the suffering with support and 343.41 for the suffering only speech ($SD = 125.47$). Showing that the manipulation was effective, there were significantly more support statements in the support speech ($M = 4.58$, $SD = 3.69$) compared to the suffering only speech ($M = 1.70$, $SD = 2.03$), $F(1, 306.54) = 46.63$, $p < 0.000$.

Next, we ran correlation analysis to determine covariates for the main models. As reported in Monin et al. (2014), the participant's anxious and avoidant attachment dimensions were positively correlated. There were no significant associations between attachment orientation and demographic characteristics. In all models, both attachment anxiety and avoidance were included as covariates.

To test Hypothesis 1, whether recalling support provision was associated with less distress and anger and more compassion compared to recalling partner suffering without providing support, we ran repeated measures general linear models. To test Hypothesis 2 and 3 that each attachment dimension was related to the amount of support statements and their emotional reactions to each condition, we used SPSS mixed models. The attachment dimensions were the between-person or Level 2 variables, and the condition was the within-person or Level 1 variable. We also examined the interaction between the attachment dimension (Level 2) and the condition (Level 1) in predicting each outcome to test for moderation. For the final simplified models, we included only the interaction terms between the attachment dimension and condition when they were significant.

Results

Hypothesis 1

As hypothesized, participants felt less distress when recalling suffering with support ($M = 3.06$, $SD = 1.75$) than recalling partner suffering only ($M = 3.51$, $SD = 1.80$), $F(1, 7.94) = 5.76$, $p = 0.02$. They felt less anger when recalling suffering with support ($M = 1.99$, $SD = 1.41$) than recalling partner suffering only ($M = 2.77$, $SD = 1.72$), $F(1, 22.84) = 18.15$, $p = 0.000$. However, they did not feel significantly more compassion when recalling support ($M = 5.21$, $SD = 1.65$) than recalling partner suffering only ($M = 5.09$, $SD = 1.68$), $F(1, .53) = .67$, $p = 0.41$.

Hypothesis 2

As shown in Table 3, as hypothesized more anxiously attached spouses reported more compassion across conditions. However, as shown in Tables 3 and 4, there were no other significant associations between anxious attachment and support statements, emotion variables, or emotion word variables.

Hypothesis 3

As shown in Table 3, there was a significant interaction between avoidant attachment and condition predicting quantity of support statements; however, follow-up analysis revealed that neither simple slope was significant, not allowing for interpretation (Aiken, West, & Reno, 1991). In the support condition, avoidant attachment was positively, but not significantly, associated with quantity of support statements ($\beta = 0.13$, $SE = 0.26$, $t(74) = 0.53$, $p = 0.60$); whereas, in the suffering condition, avoidance was negatively, but not significantly, associated with support statements ($\beta = -0.79$, $SE = 0.43$, $t(73) = -1.82$, $p = 0.07$). In terms of emotional responses, there were no significant associations between avoidant attachment and distress. However, spouses high in avoidant attachment reported less compassion across conditions, and contrary to the hypothesis, they also reported less anger. The interaction between avoidant attachment and condition predicting anger was also significant; however, neither simple slope reached statistical significance. In the suffering condition, avoidance was positively but not significantly associated with more anger ($\beta = 0.38$, $SE = 0.21$, $t(73) = 1.84$, $p = 0.07$); whereas in the support condition avoidance was negatively but not significantly associated with anger ($\beta = -0.18$, $SE = 0.17$, $t(73) = -1.05$, $p = 0.30$). In terms of word use, as shown in Table 4, avoidant attachment was not significantly related to using anxiety or sad words. However, as hypothesized avoidant individuals were more likely to use angry words across both conditions.

Discussion

The results of this study showed that when thinking about a partner's suffering, recalling support provision decreased feelings of distress and anger. The findings suggest that support provision recollection may be beneficial for spouses of persons with chronic physical and mental health conditions, adding another useful strategy that may protect against negative emotional contagion and caregiver burnout for spouses of older adults with pain. However, contrary to our hypotheses, attachment orientation was not a significant moderator of the

effects of recalling support provision on emotions. In other words, there was no evidence that being insecurely attached related to the benefits of recollecting support to a suffering partner.

Our finding that support recollection decreased negative emotions fits with previous research on caregiving as an expression of communal norms and compassionate goals (Clark & Monin, 2006; Crocker & Canevello, 2008; Monin, Schulz, & Feeney, 2014; Poulin et al., 2010). That said, we did not find evidence that support recollection increased compassion as would be predicted by these theories. This particular strategy may only lead spouses to feeling less negative in response to partner suffering rather than promote positive emotions and behavior. Thus, it may be a more self-protective emotion regulation strategy for caregivers, and not necessarily a strategy that promotes positive caregiving behaviors.

Although specific mechanisms have been proposed for the association between recollecting care provision and psychological well-being (e.g. taking a relational focus, self-affirming), future research is needed to directly examine these mechanisms and compare them to other mechanisms such as distraction. From this study, we cannot rule out that thinking about support provision is just as useful as any other type of distracting task. Studies that include control conditions for other distractions, for instance, thinking about a positive event with the partner, would be a better test of the unique benefits of support recollection.

Dyadic research is also needed to understand how recalling support provision affects both partners' well-being. A recent study showed that among young couples in a conflict situation, manipulating a positive mindset, or thinking about the positive aspects of the relationship, in one partner decreased negative emotions in both partners (Ben-Naim, Hirschberger, Ein-Dor, & Mikulincer, 2013). It will be important to understand how older couple members regulate their emotions together in the face of chronic pain.

In terms of attachment orientations, our findings that avoidant individuals reported less compassion and used more angry words fits with past research showing that avoidant individuals typically react to their partner's negative emotions with distance and anger (Consedine et al., 2012; Fiori et al., 2011; Monin, Feeney, & Schulz, 2012; Rholes et al., 1999). Although we also expected more avoidant individuals to report more feelings of anger, they did not. This inconsistency between using more angry words, a form of anger expression, and feeling less anger is consistent with Mikulincer's notion of dissociated anger in which more avoidant individuals are less aware of physiological and behavioral indicators of anger (Mikulincer, 1998). Our findings may also have to do with age-related changes in how attachment security relates to emotional experiences. Research with older adults suggests that attachment insecurity tends to be negatively associated with self-reported negative emotions, including anger; whereas this pattern tends to be reversed with younger samples (Consedine et al., 2012). Although, we did not find that more avoidantly attached individuals benefited more or less than less avoidantly attached individuals from the support recollection condition, it still may be useful for both caregivers and care recipients to target avoidant caregivers for emotion regulation interventions due to avoidant caregivers' increased anger expression.

We did not find that recalling support was more or less beneficial for anxiously attached spouses. We also did not replicate past findings that anxious attachment was related to greater distress across conditions. This lack of significant findings for anxious attachment regarding distress was not expected. However, overall, our findings that anxiously attached individuals were not much different than less anxiously attached individuals in their reactions to partner suffering and recalling support provision fits with Collins and Feeney's research regarding caregiving behavior. When support seekers' needs are clear to caregivers, more anxiously attached caregivers are just as responsive to support seeker's needs as less anxiously attached caregivers (Collins & Feeney, 2000).

There are a few limitations to this study. First, this was a small homogeneous sample. Second, there are limitations of using experiments with repeated designs. For instance, although the conditions were counter-balanced, there may be unknown consequences from participants having to recollect two different episodes of partner suffering. Third, although coders were blind to the hypotheses, it was not possible to blind them to the condition. Thus, they may have been biased in their identification of support statements. That said, their coding was statistically reliable. Fourth, the LIWC program is limited in that it does not take into account the context of words and for some of the emotion categories there is low reliability (see LIWC 2007 manual). That said, a strength of our study is that we conducted an experiment with a sample of older adults dealing with a recurrent stressor, chronic pain. We also had multiple measures of emotions, and we used observational indicators of support provision.

Taken together, this study suggests that recalling support provision to a suffering partner is an effective strategy for decreasing distress and anger when thinking about the partner's suffering. Not only do these findings add to our basic understanding of emotional processes within older spousal relationships, they also may have important clinical implications for mental health interventions for spouses dealing with a partner's chronic health conditions.

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Table 1

Participant demographics.

Sample characteristic	Spouse (<i>N</i> = 77)		Individual with pain (<i>N</i> = 77)	
	<i>n</i>	%	<i>n</i>	%
Children [*]				
Yes	59	–77.6	59	–77.6
No	17	–22.4	17	–22.4
Gender				
Male	45	–58.4	32	–41.6
Female	32	–41.6	45	–58.4
Education				
Did not complete high school	5	–6.5	4	–5.2
Completed high school	24	–31.2	22	–28.6
Postsecondary education/training	48	–62.3	51	–66.2
Employment ^{**}				
Employed	30	–39.5	27	–35.1
Homemaker	3	–3.9	2	–2.6
Unemployed/retired	43	–56.6	48	–62.3
Race				
White	72	–93.5	75	–97.4
African American	1	–1.3	1	–1.3
Other	4	–5.2	1	–1.3
Family income ^{***}				
Less than \$50,000	35	–47.95	–	–
\$50,000–\$99,999	31	–42.47	–	–
\$100,000 or more	7	–9.6	–	–

Note: Previously published in Monin et al. (2016) and Monin et al. (2014).

^{*} One spouse did not report information on children.^{**} One spouse did not report on employment status.^{***} Four spouses did not report income.

Table 2

Descriptive statistics for emotions.

	Suffering				Support			
	Mean	SD	Range	Skewness	Mean	SD	Range	Skewness
Distress	3.50	1.80	1-7	0.44	3.06	1.75	1-7	0.74
Anger	2.77	1.72	1-7	1.08	2.00	1.41	1-7	1.83
Compassion	5.09	1.69	1-7	-0.68	5.21	1.65	1-7	-0.80

Table 3

Simplified regression models examining the main effects and interaction effects of anxious and avoidant attachment on support statements and self-reported emotions.

	Estimate	SE	Df	T	p
Model 1: Support statement					
Intercept	10.80	2.06	79.59	5.25	0.00
Anxiety	0.05	0.25	72.44	0.20	0.85
Avoidance	-1.49	0.78	74.19	-1.91	0.06
Condition	-4.73	1.03	72.59	-4.58	0.00
Condition × avoidance	0.80	0.40	72.53	2.101	0.05 ^a
Model 2: Distress					
Intercept	2.70	0.65	100.19	4.19	0.00
Anxiety	0.10	0.20	72.00	0.50	0.62
Avoidance	-1.16	0.19	72.00	-0.83	0.41
Condition	0.46	0.19	74.00	2.39	0.02
Model 3: Anger					
Intercept	3.03	0.75	88.45	4.01	0.00
Anxiety	-0.04	0.17	72.00	-0.22	0.83
Avoidance	-0.73	0.27	76.74	-2.67	0.01
Condition	-0.53	0.44	73.00	-1.22	0.23
Condition × avoidance	0.55	0.17	73.00	3.25	0.00
Model 4: Compassion					
Intercept	5.31	0.59	92.47	9.01	0.00
Anxiety	0.40	0.19	72.00	2.09	0.04
Avoidance	-0.40	0.18	72.00	-2.22	0.03
Condition	-0.16	0.15	74.00	-0.79	0.43

Note: Interactions with condition were only included when significant.

^a $p = 0.048$.

Table 4

Simplified regression models examining the associations between anxious and avoidant attachment and emotion word use.

	Estimate	SE	Df	T	p
Model 1: Sad words					
Intercept	0.75	0.23	129.39	3.16	0.00
Anxiety	-0.05	0.06	72.02	-.87	0.39
Avoidance	-0.08	0.06	71.91	-1.30	0.20
Condition	0.18	0.12	75.25	1.52	0.13
Model 2: Angry words					
Intercept	-0.05	0.14	97.76	-.32	0.75
Anxiety	-0.05	0.05	72.23	-1.17	0.25
Avoidance	0.12	0.04	72.11	2.76	0.01
Condition	0.15	0.05	74.20	2.71	0.01
Model 3: Anxious words					
Intercept	0.49	0.21	124.64	2.36	0.02
Anxiety	-0.07	0.06	72.00	-1.23	0.22
Avoidance	0.06	0.05	71.88	1.11	0.27
Condition	0.17	0.10	74.77	1.76	0.08

Note: Interactions with condition were only included when significant. None of the interactions with condition were significant.