Article

Influences on Care for Others: Attachment Security, Personal Suffering, and Similarity Between Helper and Care Recipient

Personality and Social Psychology Bulletin
2018, Vol. 44(4) 574–588

DOI: 10.1177/0146167217746150
journals.sagepub.com/home/pspb
SAGE

Jude Cassidy[1], Jessica A. Stern[1], Mario Mikulincer[2], David R. Martin[1], and Philip R. Shaver[3]

Abstract

Research indicates that dispositional attachment security fosters empathy, and that short-term increases in security ("security priming") increase empathy and willingness to help others. In two experiments, we examined effects of recalling one's own vulnerability (*feeling hurt* by a relationship partner) and *security priming* on empathy for a recipient in need. In Study 1, the recipient was a middle-aged homeless woman (low similarity to participants); in Study 2, the recipient was a college-aged woman whose boyfriend had been unfaithful (high similarity to participants). In both studies, hurt feelings influenced participants' empathy, but the nature of the influence varied as a function of target–participant similarity. In Study 1, hurt feelings *decreased* empathy and increased caregiving avoidance. In Study 2, hurt feelings not only *increased* empathy but also aroused caregiving anxiety. Furthermore, security priming weakened defensive barriers against helping: In Study 1, it reduced caregiving avoidance, and in Study 2, it reduced caregiving anxiety.

Keywords

adult attachment, empathy, emotion, prosocial behavior

Received April 25, 2017; revision accepted November 13, 2017

In recent years, social scientists have explored the nature and functions of prosocial motives, emotions, and behaviors such as compassion, altruism, and kindness (e.g., Batson, 2010; Gilbert, 2005; Mikulincer & Shaver, 2010). In a world torn by hatred, violence, and strife, the importance of compassion and kindness has become increasingly clear (Dalai Lama, 2002).

Developmental and social psychologists have examined the links of compassion and kindness with secure attachment, in both children and adults (see Shaver, Mikulincer, Gross, Stern, & Cassidy, 2016; Stern & Cassidy, in press, for reviews). Being secure implies that one has witnessed, experienced, and benefited from attachment figures' sensitive and effective care, which provides a model to follow when one encounters a vulnerable or needy other (Waters & Waters, 2006). Secure individuals also feel more comfortable than insecure individuals with intimacy and interdependence, so they can more readily accept other people's needs for closeness, sympathy, and support. The positive mental representations (working models) of others that are associated with attachment security (Bowlby, 1969/1982; Bretherton & Munholland, 2016) make it easier to construe others as deserving of sympathy and support, hence compelling one to care for them. Moreover, secure individuals' positive model of self (Bartholomew & Horowitz, 1991; Bowlby, 1969/1982) allows them to feel more confident about their ability to handle another person's needs while effectively regulating their own emotions (e.g., Batson, 2010). In contrast, an insecure person is likely to have vulnerable, defended self-esteem, if not an outright negative model of self. He or she is likely to be wary of others' potential for neglect, harsh criticism, rejection, or abuse. At a theoretical level, it is in large part these representations of self and others that underlie the notion that security might be conducive to empathy and prosocial behavior, whereas insecurity might be conducive to self-concern, self-protection, defensive rejection of others' needs, and misguided efforts to understand and help others (Mikulincer & Shaver, 2016; Shaver et al., 2016).

[1]University of Maryland, College Park, USA
[2]Interdisciplinary Center Herzlyia, Israel
[3]University of California, Davis, USA

Corresponding Author:
Jude Cassidy, Department of Psychology, University of Maryland, College Park, College Park, MD 20742, USA.
Email: jcassidy@umd.edu

Considerable evidence indicates that secure attachment relationships foster compassion and kindness, and that insecure relationships interfere with these prosocial tendencies. Moreover, experimental studies (e.g., Mikulincer, Shaver, Gillath, & Nitzberg, 2005; Mikulincer, Shaver, Sahdra, & Bar-On, 2013) show that short-term increases in a person's felt sense of security can increase his or her compassion and willingness to provide aid to a troubled person.

Less studied are possible short-term, situational factors that inhibit or interfere with compassion and altruism, and how these factors interact with attachment security. This is important because compassion is not always easy, and efforts to help others are not always successful (e.g., Figley, 2002; Shaver, Mikulincer, & Shemesh-Iron, 2010). More research is needed on factors that influence empathy and altruism under difficult conditions. In the present studies, we focus on two such factors. One of these relates to the potential helper—the individual's own recalled feelings of vulnerability, harm, or psychological pain; the second relates to the similarity between the potential helper and the care recipient. Moreover, we consider how a short-term enhancement of attachment security (i.e., "security priming"; Mikulincer & Shaver, 2007) influences empathy and altruism either on its own or in interaction with each of these factors.

First, we explore the effects of recalling hurt feelings (i.e., of being transgressed or devalued in a close relationship) on compassion for and kindness toward a needy other. Compassion and altruism are attempts to reduce another person's pain and inherently entail an initial recognition of the person's pain. Pain, in all its varieties, is a universal component of human life, and it seems likely that one's own experiences of pain influence responses to the pain of others. We ask, "How does recalling one's own psychological pain (in the form of hurt feelings) influence responses to another person's pain, and what is the role of attachment security in the process?" This issue has not been previously examined.

There is evidence, however, that in situations in which individuals recall their own psychological pain, attachment security is associated with more constructive reactions to hurt feelings (Cassidy, Shaver, Mikulincer, & Lavy, 2009; Feeney, 2009; Shaver, Mikulincer, Lavy, & Cassidy, 2009). In the Cassidy et al. study, all participants were asked to recall and write about a time when "a close relationship partner hurt your feelings." Following random assignment to a secure or neutral subliminal priming condition (rapid exposures to words related either to love and security or to neutral objects), individuals were asked to describe their feelings and likely behavior toward a close relationship partner if such an event were to happen again. As expected, for individuals in the neutral prime group, dispositional insecurity was associated with negative reactions to hurt feelings. But security priming reduced these tendencies to behave in ways destructive to close relationships. Specifically, the two major dimensions of attachment insecurity—attachment anxiety (fear of rejection and abandonment) and attachment avoidance (avoidance of self-disclosure, commitment, and vulnerability to a partner; see Brennan, Clark, & Shaver, 1998; Mikulincer & Shaver, 2016, for detailed explanations of these dimensions)—were both influenced by security priming: Security priming eliminated the connection between avoidant attachment and the tendency to dismiss hurtful events, inhibit negative feelings, and react defensively and hostilely to an offending partner, and it reduced the connection between anxious attachment and the tendency to cope badly with a hurtful event, to experience strong feelings of rejection and other negative emotions, and to express vulnerability (e.g., by crying).

The Cassidy et al. study indicated that security priming led participants to predict that in the future, when feeling hurt, they would behave less defensively and more constructively—in this case, to a close relationship partner. But this study did not explore whether hurt feelings and security priming affect empathy for another person who might also be distressed in some way, which is the central focus of the present research. Moreover, the Cassidy et al. study, because it lacked a no-pain condition (i.e., all participants were instructed to think of a time when they felt hurt), did not address the important question of how being reminded of one's own psychological pain (or not) might influence care for others. One possibility is that recalling hurt feelings contributes to increased self-concern, self-protection, and sadness or anger, thereby reducing empathy. Alternatively, recalling a painful interpersonal experience of one's own might increase one's ability to feel empathy for someone else's suffering. It is therefore important to explore how recalling hurt feelings affects empathy and helpfulness, and how increasing a person's short-term sense of security does or does not alter these general tendencies to help another person or fail to help.

Why might security moderate the effects of hurt feelings on care for others? According to attachment theory, threat (in this case, hurt feelings) automatically activates attachment-related needs for security and care, along with behaviors to meet these needs (Bowlby, 1973); such activation can, in turn, interfere with helping others in need because the person may feel that obtaining security and care for the self is more urgent than providing care for others. Such a state is thought to largely characterize insecure persons. For them (as shown in Cassidy et al., 2009), hurt feelings lead to increased self-worry and defensiveness, which, in turn, should reduce empathy because a person preoccupied with personal needs for care can neither attend nor respond to the needs of others. In contrast, a sense of security allows an individual to maintain calm confidence in the ability to deal constructively with hurt feelings (e.g., to discuss the event with the confidence that the relationship can withstand the transgression; Cassidy et al., 2009). Such an individual, who does not experience hurt feelings as a threat, has an increased capacity to be open, sensitive, and responsive to others' pain.

A second issue examined in the present article is the effect of the similarity between the potential helper and the person

needing care (the "care recipient"). Does the way in which hurt feelings and security priming interact to affect empathy vary as a function of the similarity between these two persons? Presumably, some individuals, perhaps ones who are less like oneself, are more difficult than others to identify with and feel empathy toward (e.g., Cialdini, Brown, Lewis, Luce, & Neuberg, 1997). The dynamics of empathy and helping in these two cases—empathy toward a person dissimilar to oneself versus empathy toward someone similar to oneself whose problems are easy to identify with—might be quite different. The first kind of situation requires reaching across a social gap (e.g., in ethnicity, age, or social status) to become involved with someone who is different from oneself. The second kind of situation may make it easier to identify with the person in need. (See Curry & Dunbar, 2013, and Dunbar, 2008, for an evolutionary perspective on increased altruism as a function of similarity.) Even though previous findings have indicated that security priming can promote compassion and care regardless of one's similarity to the person needing care (e.g., Mikulincer et al., 2003; Mikulincer et al., 2005), questions remain about the influence of this dimension in reactions to hurt feelings.

The Present Studies

The two studies reported here examined (a) the role of hurt feelings in raising or lowering the tendency to care for others and (b) whether security priming buffers against any negative consequences of recalling hurt feelings. The main dependent variable in both studies was empathy and willingness to help a suffering other. We also measured feelings and cognitions related to helping—specifically, caregiving avoidance (the tendency to distance oneself from providing care) and caregiving anxiety (concern about one's ability to provide effective care). To gain insight into possible influences of attachment-related differences in both dispositional antecedents and outcomes, we included measures of dispositional attachment anxiety and avoidance (the two major dimensions of attachment insecurity; Mikulincer & Shaver, 2016). In addition, we assessed dispositional empathy and other individual-difference variables known to be correlated with attachment security—self-esteem and neuroticism (see Mikulincer & Shaver, 2016, for a review). Statistically controlling for these variables was an attempt to rule out alternative explanations of an association between attachment and helping because we could learn whether the attachment dimensions still had unique effects on compassion and helping.

The two studies differed in the characteristics of the potential care recipient. In the first study, we examined participants' empathy and willingness to help a stranger who was *unlike* themselves: a poor middle-aged woman who had lost her job and was forced to sleep on the street because of the closure of a local homeless shelter. In addition to examining whether hurt feelings reduced or increased empathy, we explored the possibility that any negative consequences of hurt feelings might reveal themselves in a tendency toward caregiving *avoidance* (i.e., putting the needy woman out of mind and resisting involvement). Given this reaction, we anticipated that security priming would reduce this defensive avoidance. Because manipulated security has rarely interacted with individual-difference variables in previous studies, we expected the experimental effects of hurt feelings and security priming to occur regardless of individuals' dispositional attachment anxiety and avoidance, empathy, self-esteem, or neuroticism.

In the second study, we altered the description of the distressed stranger to be more similar to study participants in age and relationship experience: We characterized her as a college-age woman suffering due to a painful romantic relationship breakup rather than to poverty. This manipulation of the care recipient's characteristics across studies, from "not-like-me" to "like-me," led us to expect not only greater empathy but also greater caregiving *anxiety*. Caregiving anxiety reflects concerns about one's own competence as a helper (Shaver et al., 2010); therefore, recalling one's own relationship difficulties and the resulting psychological pain might increase concerns about being capable of providing useful care to a person with problems similar to one's own. If so, we expected that security priming would reduce this impediment to providing effective care.

Study 1

The goal of Study 1 was to examine the effects of (a) recalling personal psychological pain (hurt feelings) and (b) feeling secure on participants' empathy and willingness to help a homeless stranger who was in physical and economic distress. In addition to examining whether hurt feelings would reduce or increase empathy and how empathy would be affected by security priming, we wished to determine whether caregiving avoidance would be reduced by security priming. We expected these effects to hold regardless of individuals' dispositional attachment orientations (i.e., their scores on attachment anxiety and avoidance), empathy, self-esteem, or neuroticism).

Method

Participants. Power analyses using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) indicated that a sample size of 150 was adequate to detect small effect sizes at 80% power in the current design. Participants were 153 undergraduates recruited from introductory psychology courses at a large American university (38 men, 115 women) ranging in age from 18 to 34 (M age = 19.5 years, SD = 1.7). The sample was diverse, with 50% of the participants identifying as White, 22% as Asian, 16% as African American, 7% as Latino/Hispanic, and 5% as multiracial/Other.

Measures

Experiences in Close Relationships Scale–Short form (ECR-S). In this 12-item version of the widely used ECR measure of dispositional adult attachment anxiety and avoidance (Brennan et al., 1998), respondents rate the extent to which each item describes their feelings in personal relationships on a 7-point scale (1 = *not at all*, 7 = *very much*; Wei, Russell, Mallinckrodt, & Vogel, 2007). Six items tap attachment anxiety (e.g., "I worry about being rejected or abandoned") and six tap attachment-related avoidance (e.g., "I don't feel comfortable opening up to others"). Both the original ECR and the ECR-S have demonstrated good reliability and validity across diverse samples (Brennan et al., 1998; Crowell, Fraley, & Roisman, 2016; Wei et al., 2007). The ECR-S was also reliable in the present study (Cronbach's alphas for Studies 1 and 2, respectively: $\alpha_{anxiety}$ = .77, .74; $\alpha_{avoidance}$ = .80, .74).

Interpersonal reactivity index (IRI). The IRI is a frequently used self-report measure of dispositional empathy in which respondents rate a series of statements about their responses to interpersonal situations from 1 (*does NOT describe me well*) to 5 (*describes me very well*; Davis, 1983). In the present study, we administered 21 items, representing the three most commonly used subscales: Empathic Concern, the extent to which individuals feel concern or sympathy for others (e.g., "I often have tender, concerned feelings for people less fortunate than me"); Perspective Taking, individuals' tendency to see things from others' points of view (e.g., "I sometimes try to understand my friends better by imagining how things look from their perspective"); and Personal Distress, individuals' proclivity to experience self-focused negative emotions in response to others' emotions (e.g., "Being in a tense emotional situation scares me"). The IRI has been shown to be both reliable and valid (e.g., Davis, 1983; Pulos, Elison, & Lennon, 2004). In Studies 1 and 2, Cronbach's alphas for the three subscales ranged from .78 to .81.

Rosenberg Self-Esteem Scale (RSES). This 10-item index asks respondents to report their thoughts about themselves and their feelings of self-worth by rating items such as "On the whole, I am satisfied with myself," using a scale from 1 (*strongly disagree*) to 4 (*strongly agree*; Rosenberg, 1979). Research supports the scale's reliability and validity in a variety of samples (Gray-Little, Williams, & Hancock, 1997). Cronbach's alpha was .89 in Study 1 and .90 in Study 2.

Eysenck Personality Questionnaire Revised–Short form, Neuroticism scale (EPQR-S-N). The Neuroticism subscale of this brief version of the classic personality inventory comprises 12 questions about respondents' emotional tendencies, to which they can respond *yes* (1) or *no* (0; Eysenck, Eysenck, & Barrett, 1985). Items include "Does your mood often go up and down?" and "Are you an irritable person?" Items are summed to derive a total Neuroticism score. The scale shows good test–retest reliability and validity (e.g., Francis, Brown, & Philipchalk, 1992). Cronbach's alpha was .82 in Study 1 and .83 in Study 2.

Mood scale. To assess participants' mood following the memory task (described below), participants responded to three "I feel . . ." statements on 7-point Likert-type scales with anchor points of (a) *sad*/*happy*, (b) *bad*/*good*, and (c) *negative*/*positive*. The scale, created for this study, showed good internal consistency (Study 1 α = .94, Study 2 α = .91).

Empathy for target. After reading a news article about a homeless woman named Lisa (described below), participants rated their empathy and willingness to help using a scale developed for this study. Specifically, participants indicated the extent to which they agreed with 17 statements beginning with the stem, "When I think about Lisa and people like her in my area . . ." Five items tapped participants' empathy (e.g., "I feel sympathetic to them"); five items assessed their willingness to help (e.g., "I would be willing to help Lisa and other homeless people in my area look for jobs"); four items tapped attributions of responsibility, with situational/external attributions scored positively (e.g., "I think the city is responsible for their situation") and personal/internal attributions scored negatively (e.g., "I think Lisa and other homeless people are responsible for their own situation"); and three items measured respondents' feelings of personal distress (e.g., "I feel uncomfortable"). Participants responded on a Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Empathy scores were calculated by computing the mean across empathy, helping, attributions, and personal distress (reverse-scored) items. Scores on this measure were positively associated with participants' reports on the IRI, providing preliminary evidence of convergent validity with an established empathy measure. Exploratory factor analysis revealed good item fit within the theoretically derived subscales. Cronbach's alpha was .84 in Study 1 and .83 in Study 2.

Caregiving System Scale (CSS). This 20-item self-report measure assesses participants' feelings of discomfort when providing care to others; we adapted the original measure for the present investigation by making items specific to the woman in the news article (Shaver et al., 2010). Respondents rate 10 items tapping caregiving *anxiety* (e.g., "I would get anxious if I thought Lisa or someone like her didn't want my help") and 10 items tapping caregiving *avoidance* (e.g., "I prefer not to get involved with helping Lisa or people like her"), using a 7-point scale where 1 indicates *strongly disagree* and 7 indicates *strongly agree*. Studies using the original scale have demonstrated its good psychometric properties and validity in diverse samples (see Shaver et al., 2010). The scale showed good internal consistency in the present study (Cronbach's alphas for Studies 1 and 2, respectively: $\alpha_{anxiety}$ = .86, .80; $\alpha_{avoidance}$ = .92, .92).

Procedure

Overview. Data were collected in two waves: First, participants completed a set of online questionnaires—including the ECR-S, IRI, RSES, and EPQR-S Neuroticism scale—and provided demographic information. Following completion of the online questionnaires, participants were invited to a 20-min laboratory session. In that session, a female experimenter read a set of standardized verbal instructions that guided participants through a series of computer-based tasks. Each lab session was run in groups of one to five participants, and each participant was seated at a separate computer so that all computer stimuli and responses were private. Participants completed a memory task and then were primed using a brief face visualization procedure (described below). Then, participants read a fictitious news article about Lisa, a homeless woman from their local community experiencing physical and economic distress; specifically, she had lost her job and was forced to sleep on the street due to the closure of a local homeless shelter (see Supplemental Methodology Materials). Following the article, participants reported their responses to it on the empathy and caregiving distress questionnaires. At the end of the session, participants were compensated with course credit.

Table 1. Means and Standard Deviations for Outcome Variables (Empathy and Caregiving Distress), Dispositional Empathy, Attachment Variables, Neuroticism, and Self-Esteem, in Studies 1 and 2.

	Study 1 (N = 153)		Study 2 (N = 154)	
	M	*SD*	*M*	*SD*
Empathy for target	5.42	0.73	5.29	0.69
Caregiving anxiety	3.56	1.11	3.48	0.93
Caregiving avoidance	2.60	1.09	2.69	1.00
Perspective taking (IRI)	3.72	0.64	3.62	0.63
Empathic concern (IRI)	3.91	0.64	3.91	0.58
Personal distress (IRI)	2.69	0.71	2.77	0.67
Attachment anxiety (ECR-S)	3.76	1.20	3.78	1.12
Attachment avoidance (ECR-S)	3.09	1.15	2.97	1.00
Neuroticism (EPQR-S)	5.40	3.40	5.46	3.51
Self-esteem (RSES)	3.10	0.52	3.09	0.54

Note. Scores represent *means* across scale items for all measures except the EPQR-S, which represents a *sum* of all "yes" responses. IRI = Interpersonal Reactivity Index; ECR-S = Experiences in Close Relationships Scale–Short Form; EPQR-S = Eysenck Personality Questionnaire Revised–Short Form; RSES = Rosenberg Self-Esteem Scale.

Experimental conditions. Participants were randomly assigned to one of two Memory conditions (Hurt Feelings or Neutral) and one of two Priming conditions (Secure or Neutral), yielding a total of four experimental groups. For the Memory conditions, participants were instructed to recall either (a) a time someone close to them hurt their feelings (Hurt Feelings memory) or (b) where they went and what they ate during the previous day (Neutral memory). In both conditions, participants provided written responses to four open-ended questions about their memory to probe specific recollections of the event. To ensure that the Hurt Feelings condition was effective in eliciting emotions appropriate to the event, participants responded to a brief scale assessing their mood after they completed their written responses.

Next, for the Priming conditions, participants were asked to think about either (a) "the person you can most depend on to be there to comfort you in times of trouble" (Secure Prime) or (b) "someone in one of your classes who you do not know well and rarely think about" (Neutral Prime). The experimenter guided participants through a 2-min face visualization procedure developed by Baldwin, Keelan, Fehr, Enns, and Koh-Rangarajoo (1996; see Supplemental Methodology Materials). This procedure has been used in previous studies examining the effects of attachment security priming (e.g., Mikulincer et al., 2005).

Results

Descriptive statistics for all variables are listed in Table 1, and bivariate correlations are reported in Table 2. Preliminary analyses were conducted (a) to test the effectiveness of the Memory condition manipulation, (b) to determine whether statistical assumptions for linear regression were met, (c) to assess differences in baseline characteristics between experimental groups, and (d) to identify additional covariates to include in the main analyses. Results of a t test confirmed that the Memory condition manipulation was effective; that is, participants assigned to the Hurt Feelings condition reported lower mood (M = 3.61, SD = 1.21) than those in the neutral memory condition following the manipulation (M = 4.93, SD = 1.39), $t(151) = -6.28$, $p < .001$. Statistical assumptions for regression were met (e.g., residuals were reasonably homoscedastic and normally distributed). With regard to baseline differences, ANOVAs revealed no significant differences in dispositional perspective taking, personal distress, attachment anxiety, self-esteem, neuroticism, or age between participants in the two experimental conditions; however, despite random assignment, significant differences between experimental groups emerged for dispositional empathic concern (p = .050) and attachment avoidance (p = .017). Thus, these variables were considered as potential covariates. In addition, the following covariates were identified by examining correlations with dispositional variables for each of the outcomes of interest: gender, empathic concern, and perspective taking for analyses predicting empathy; empathic concern, personal distress, attachment anxiety and avoidance, neuroticism, and self-esteem for caregiving anxiety; and gender, empathic concern, and personal distress for caregiving avoidance. However, because preliminary analyses revealed no substantial differences in results when covariates were included versus omitted, we report regression results including only

Table 2. Bivariate Correlations for Study 1 (Above Diagonal) and Study 2 (Below Diagonal).

		1	2	3	4	5	6	7	8	9	10	11
Experimental outcomes												
1.	Empathy for target	—	.14†	−.84***	.23**	.57***	−.03	−.05	−.14†	−.03	−.05	.23**
2.	Caregiving anxiety	.01	—	−.11	−.05	.16*	.39***	.36***	.18*	.25**	−.34***	.15†
3.	Caregiving avoidance	−.81***	.18*	—	−.23**	−.51***	.11	.13	.14†	.11	−.02	−.24*
Dispositional variables												
4.	Perspective taking (IRI)	.21***	.01	−.19*	—	.37***	−.18*	−.06	−.07	−.15†	.15†	−.03
5.	Empathic concern (IRI)	.60***	−.03	−.55***	.39***	—	−.01	−.03	−.29***	.07	.04	.23**
6.	Personal distress (IRI)	.06	.40**	.08	−.26**	.01	—	.44**	.17*	.45***	−.37***	.13
7.	Attachment anxiety (ECR-S)	−.15†	.13†	.17*	−.13	−.18*	.38***	—	.23**	.57***	−.41***	.00
8.	Attachment avoidance (ECR-S)	−.05	.07	.03	−.06	−.11	.17*	.10	—	.20*	−.24**	−.09
9.	Neuroticism (EPQR-S)	.06	.24**	.01	−.30***	.03	.62***	.48***	.19*	—	−.57***	.04
10.	Self-esteem (RSES)	.05	−.22**	−.06	.25**	.08	−.47***	−.38***	−.26**	−.63***	—	−.06
11.	Gender	.30***	.08	−.29***	.08	.31***	.18**	.07	.00	.26***	−.11	—

Note. IRI = Interpersonal Reactivity Index; ECR-S = Experiences in Close Relationships Scale–Short Form; EPQR-S = Eysenck Personality Questionnaire Revised–Short Form; RSES = Rosenberg Self-Esteem Scale.
†$p < .10$. *$p \leq .05$. **$p < .01$. ***$p < .001$.

Table 3. HLM Regression Coefficients Predicting Empathy and Caregiving Distress From Dispositional Variables and Priming Condition in Study 1.

	β	*t*	*p*	ΔR^2
Model 1: Empathy for target				
Step 1	—	—	—	.06
Attachment anxiety	−.01	−0.15	.878	—
Attachment avoidance	−.18	−2.09	.038	—
Hurt feelings	−.07	−0.87	.383	—
Secure prime	.19	2.30	.023	—
Step 2	—	—	—	.08
Attachment Anxiety × Hurt Feelings	−.02	−0.06	.956	—
Attachment Avoidance × Hurt Feelings	.31	1.31	.192	—
Attachment Anxiety × Secure Prime	.04	0.13	.900	—
Attachment Avoidance × Secure Prime	−.28	−1.00	.319	—
Hurt Feelings × Secure Prime	.39	2.76	.007	—
Model 2: Caregiving anxiety				
Step 1	—	—	—	.15
Attachment anxiety	.33	4.18	<.001	—
Attachment avoidance	.13	1.58	.117	—
Hurt feelings	.06	0.77	.444	—
Secure prime	−.11	−1.44	.153	—
Step 2	—	—	—	.03
Attachment Anxiety × Hurt Feelings	.10	0.37	.712	—
Attachment Avoidance × Hurt Feelings	−.28	−1.19	.234	—
Attachment Anxiety × Secure Prime	.04	0.13	.895	—
Attachment Avoidance × Secure Prime	−.39	−1.43	.156	—
Hurt Feelings × Secure Prime	.17	1.23	.222	—
Model 3: Caregiving avoidance				
Step 1	—	—	—	.06
Attachment anxiety	.10	1.16	.247	—
Attachment avoidance	.15	1.80	.075	—
Hurt feelings	.09	1.12	.265	—
Secure prime	−.17	−2.09	.038	—
Step 2	—	—	—	.10
Attachment Anxiety × Hurt Feelings	.06	0.02	.832	—
Attachment Avoidance × Hurt Feelings	−.29	−1.24	.216	—
Attachment Anxiety × Secure Prime	−.15	0.50	.616	—
Attachment Avoidance × Secure Prime	.23	0.85	.398	—
Hurt Feelings × Secure Prime	−.49	−3.48	.001	—

Note. HLM = hierarchical linear modeling.

the two covariates of most theoretical interest—attachment anxiety and avoidance—to preserve power.

Principal analyses predicting each outcome—empathy, caregiving anxiety, and caregiving avoidance—were conducted using hierarchical regression analyses, with the identified covariates entered in the first step along with the experimental conditions (coded as dichotomous variables), their two-way interaction terms entered in the second step, and three-way interactions entered in the third step. Three-way interactions were dropped from the model where they were nonsignificant. Significant interactions were probed using Hayes's (2012) PROCESS procedure for generating bias-corrected bootstrapped estimates of simple slopes. Results are summarized in Table 3 and described below for each outcome.

Empathy. As predicted, results of the regression controlling for dispositional attachment anxiety and avoidance revealed a main effect of security priming on empathy (β = .19, p = .023), with secure-primed participants reporting greater empathy than those who received the neutral prime. There was no main effect of Memory condition (p = .383), but the interaction between the Priming and Memory conditions was significant (β = .39, p = .007). Simple slopes analysis revealed that recalling hurt feelings significantly reduced participants' empathy if they received the neutral prime (β = –.46 p = .003),

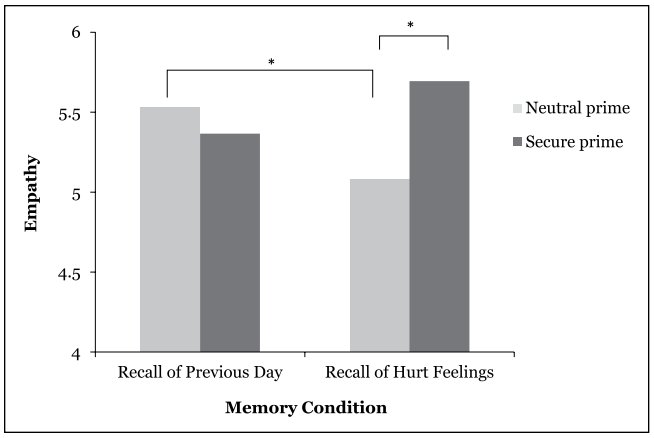

Figure 1. Interaction between memory and priming conditions predicting empathy in Study 1.

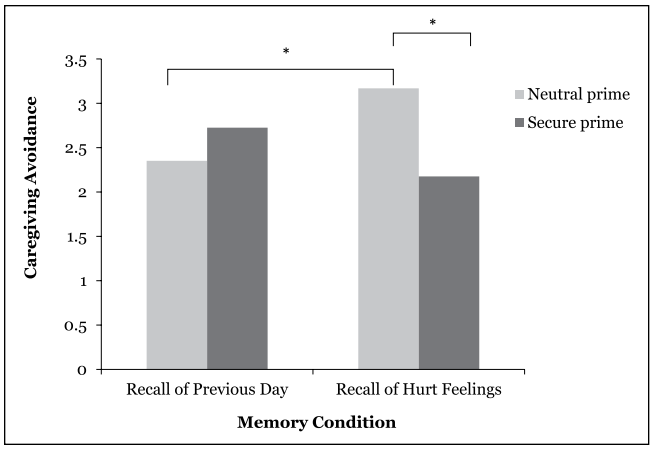

Figure 2. Interaction between memory and priming conditions predicting caregiving avoidance in Study 1.

but not if they received the secure prime (β = .26, p = .160). Moreover, security priming increased empathy after recalling hurt feelings (β = .61, p < .001), but not after recalling a neutral memory (β = –.11, p = .521; see Figure 1). These results indicate that security priming buffered the detrimental effects of recalling hurt feelings on empathy.

Regarding dispositional attachment style, there was a main effect of attachment avoidance on empathy, with higher avoidance predicting lower empathy (β = –.18, p = .038), but no main effect of attachment anxiety, p = .878. Furthermore, no significant two- or three-way interactions emerged between participants' dispositional attachment style and either of the experimental conditions (see Table 3).

Caregiving anxiety. In the regression model predicting caregiving anxiety, participants' dispositional attachment anxiety was the only significant predictor (β = .33, p < .001). There were no significant main effects or interactions of experimental conditions, and no significant interactions between dispositional attachment style and experimental conditions, all ps > .05 (see Table 3).

Caregiving avoidance. In contrast to the results for caregiving anxiety, significant effects emerged for caregiving avoidance: Controlling for dispositional attachment anxiety and avoidance, there was a main effect of security priming on caregiving avoidance (β = –.17, p = .038), with security-primed participants reporting less caregiving avoidance than those who received the neutral prime. There was no main effect of Memory condition on caregiving avoidance (p = .265), but the interaction between the Priming and Memory conditions was significant (β = –.49, p = .001). Simple slopes analysis revealed that recalling hurt feelings significantly increased caregiving avoidance if participants received the neutral prime (β = .83, p = .001), but not if they received the secure prime (β = –.45, p = .063). In addition, security priming reduced caregiving avoidance after recalling hurt feelings (β = –.98, p < .001), but not after recalling a neutral memory (β = .31, p = .221; see Figure 2). Thus, security priming buffered the tendency of hurt feelings to increase caregiving avoidance.

Dispositional attachment avoidance predicted marginally greater caregiving avoidance (β = .15, p = .075). Dispositional attachment anxiety was not related to caregiving avoidance, and no significant two- or three-way interactions emerged between participants' attachment scores and either experimental condition (see Table 3).

Discussion

As expected, memories of being hurt lowered participants' mood, and overall, security priming increased empathy. But memories of being hurt did not have a main effect on empathy; rather, feeling hurt led participants to be less empathic unless this tendency was countered by security priming. A similar pattern of findings was obtained for caregiving avoidance. Without security priming, the recall of personal hurt feelings increased caregiving avoidance, but this tendency was countered by security priming. Overall, the results indicate that recalling an experience of being hurt by a relationship partner reduced empathy and increased caregiving avoidance toward a distressed homeless woman who was not very similar to the participants. The dispositional findings were compatible with this general pattern of results: Attachment-related avoidance predicted reduced empathy for the woman in distress, and attachment-related anxiety predicted caregiving anxiety (for similar findings, see Mikulincer et al., 2005).

As expected, there were no significant interactions between either the security-prime and hurt feelings manipulations, on one hand, and participants' attachment anxiety or avoidance, on the other hand, in predicting empathy or caregiving distress. Thus, the hurt feelings and security priming manipulations affected participants regardless of their dispositional attachment insecurities. This lack of interactions is

consistent with previous studies demonstrating that security priming boosts empathy for a person performing a series of stressful tasks in the laboratory regardless of attachment orientations (e.g., Mikulincer et al., 2005; for a review, see Mikulincer & Shaver, 2016).

Study 2

Study 1 suggested that recalling hurt feelings produces lower empathy and a tendency to distance oneself from an unfamiliar suffering person, but that both of these effects can be overcome by augmented attachment security. Study 2 was designed to determine whether the same pattern of findings is obtained when the target of potential empathy, a young woman, is more like oneself and is distressed by a series of events set into motion by her boyfriend's betrayal, a situation with which many undergraduate students can identify. As in Study 1, we examined the influences on empathy and willingness to help a distressed woman of (a) recalling a hurtful experience and (b) receiving a boost in security. We again examined how empathy was affected by recalling hurt feelings, by receiving a security priming manipulation, and by dispositional attachment anxiety and avoidance. We were especially interested in whether similarities between the participants and the distressed young woman would make it easier for them to empathize with her, more difficult to distance themselves from her, and more likely to arouse anxiety related to caregiving.

Method

Participants. A new, nonoverlapping sample of 154 undergraduates was recruited from the same university to participate in this study: 51 men and 103 women ranging in age from 17 to 30 (M_{age} = 19.8 years, SD = 2.0). Forty-seven percent of participants identified as White, 19% as Asian, 16% as African American, 11% as Latino/Hispanic, and 6% as multiracial/other.

Measures and procedure. All materials and procedures replicated those in Study 1, with the following exceptions: First, the news story described a younger woman (again named Lisa) who, after moving in with her boyfriend, discovers that he has been unfaithful; following a fight, the boyfriend kicks Lisa out of his house, causing her to sink into depression, lose her job, and eventually resort to living on the streets (see Supplemental Methodology Materials). Second, two additional items were included in the Empathy outcome measure ("I would be willing to talk to Lisa about her situation" and "I would be willing to meet with Lisa and comfort her"), and the wording of one item was adjusted slightly to match the new story.

Results

Descriptive statistics are listed in Table 1, and bivariate correlations in Table 2. (Notice that the correlations are generally very similar across the two studies.) Preliminary analyses were conducted as reported in Study 1. A t test confirmed that participants in the Hurt Feelings condition reported lower mood (M = 3.57, SD = 1.67) than those in the neutral memory condition following the Memory condition manipulation (M = 4.87, SD = 1.34), $t(152) = -6.45$, $p < .001$. Statistical assumptions for regression were adequately met. ANOVAs revealed no significant baseline differences between experimental groups in empathic concern, perspective taking, personal distress, attachment anxiety, attachment avoidance, self-esteem, neuroticism, or age. The following covariates were identified by examining correlations between dispositional variables and each outcome: gender, empathic concern, and perspective taking for analyses predicting empathy; personal distress, neuroticism, and self-esteem for caregiving anxiety; and gender, perspective taking, empathic concern, and attachment anxiety for caregiving avoidance. Because preliminary analyses revealed slight changes in results when covariates were included, we report results of Study 2 controlling for the above covariates.

Principal analyses predicting each outcome were conducted using hierarchical regression analyses with the identified covariates entered in the first step with each of the experimental conditions (as dichotomous variables), their two-way interaction terms entered in the second step, and three-way interactions entered in the third step. Three-way interactions were dropped from the model where they were nonsignificant. Significant interactions were probed using simple slopes analyses described above (Hayes, 2012). Results are summarized in Table 4 and described below.

Empathy. When controlling for covariates, results of the regression predicting empathy revealed a marginal main effect of the Memory condition, β = .13, p = .054, with those assigned to the Hurt Feelings condition reporting slightly *greater* empathy, on average, than those assigned to the Neutral Memory condition—a pattern different from that of Study 1, where hurt feelings tended to reduce empathy in the absence of a security prime. In Study 2, there was no main effect of security priming and no significant interaction between the two manipulations, in contrast to Study 1.

Regarding dispositional attachment style, no main effects of attachment anxiety or avoidance emerged, but there was a significant interaction between dispositional attachment anxiety and security priming (β = .60, p = .021). Specifically, in the Neutral Prime condition, participants' greater attachment anxiety predicted lower empathy for the woman in the news article (β = –.12, p = .039), whereas in the Secure Prime condition, there was no relation between attachment anxiety and empathy (β = .04, p = .523; see Figure 3). This suggests that when the care recipient was similar to the helper, more attachment-anxious participants were less empathic. This was true only in the neutral priming condition, however; security priming eliminated the detrimental effect of dispositional attachment anxiety on empathy.

Table 4. HLM Regression Coefficients Predicting Empathy and Caregiving Distress From Dispositional Variables and Priming Condition in Study 2.

	β	*t*	*p*	ΔR^2
Model 1: Empathy for target				
Step 1	—	—	—	.40
Gender	.14	2.05	.042	—
Empathic concern	.58	7.82	<.001	—
Perspective taking	−.01	−0.11	.909	—
Attachment anxiety	−.08	−1.19	.237	—
Attachment avoidance	.02	0.30	.762	—
Hurt feelings	.13	1.94	.054	—
Secure prime	.06	0.90	.370	—
Step 2	—	—	—	.04
Attachment Anxiety × Hurt Feelings	.04	0.17	.863	—
Attachment Avoidance × Hurt Feelings	.37	1.68	.096	—
Attachment Anxiety × Secure Prime	.60	2.34	.021	—
Attachment Avoidance × Secure Prime	−.36	−1.63	.106	—
Hurt Feelings × Secure Prime	−.09	−0.80	.427	—
Model 2: Caregiving anxiety				
Step 1	—	—	—	.17
Personal distress	.41	4.21	<.001	—
Neuroticism	−.02	−0.21	.836	—
Self-esteem	−.07	−0.66	.510	—
Attachment anxiety	−.04	−0.47	.643	—
Attachment avoidance	−.02	−0.27	.790	—
Hurt feelings	.10	1.35	.179	—
Secure prime	.01	0.17	.865	—
Step 2	—	—	—	.03
Attachment Anxiety × Hurt Feelings	.07	0.25	.804	—
Attachment Avoidance × Hurt Feelings	.11	0.42	.677	—
Attachment Anxiety × Secure Prime	−.04	−0.12	.903	—
Attachment Avoidance × Secure Prime	.16	0.61	.546	—
Hurt Feelings × Secure Prime	−.27	−2.05	.043	—
Model 3: Caregiving avoidance				
Step 1	—	—	—	.32
Gender	−.13	−1.86	.065	—
Empathic concern	−.51	−6.51	<.001	—
Perspective taking	.01	0.14	.892	—
Attachment anxiety	.10	1.42	.159	—
Attachment avoidance	−.04	−0.59	.559	—
Hurt feelings	−.06	−0.82	.416	—
Secure prime	−.01	−0.16	.874	—
Step 2	—	—	—	.01
Attachment Anxiety × Hurt Feelings	−.17	−0.62	.534	—
Attachment Avoidance × Hurt Feelings	−.14	−0.57	.573	—
Attachment Anxiety × Secure Prime	−.32	−1.14	.256	—
Attachment Avoidance × Secure Prime	.14	0.56	.574	—
Hurt Feelings × Secure Prime	−.07	−0.56	.577	—

Note. HLM = hierarchical linear modeling.

(There were also significant effects of IRI empathic concern, β = .58, $p < .001$, and gender, β = .14, $p = .042$, with women reporting greater empathy than men, consistent with previous research.)

Caregiving anxiety. Results of the regression predicting caregiving anxiety (controlling for personal distress, neuroticism, and self-esteem) revealed no significant main effects of experimental conditions, but the Memory × Security

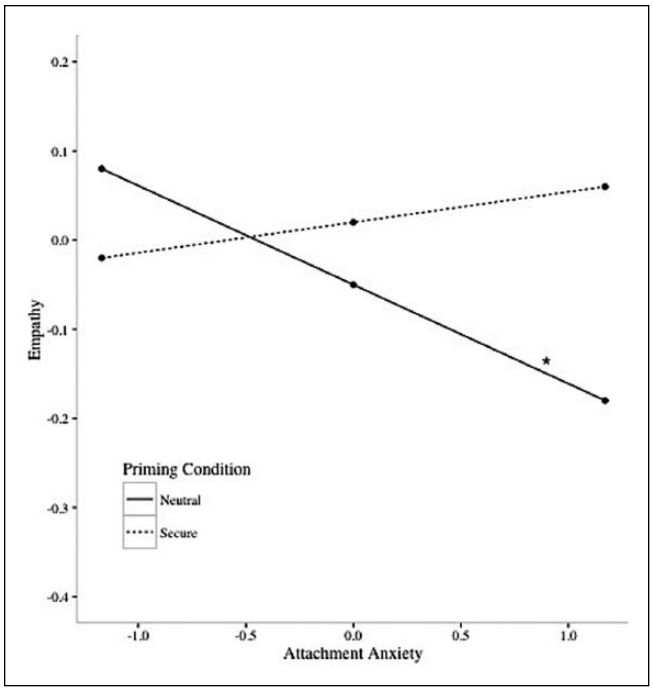

Figure 3. Interaction between priming condition and attachment anxiety predicting empathy in Study 2.

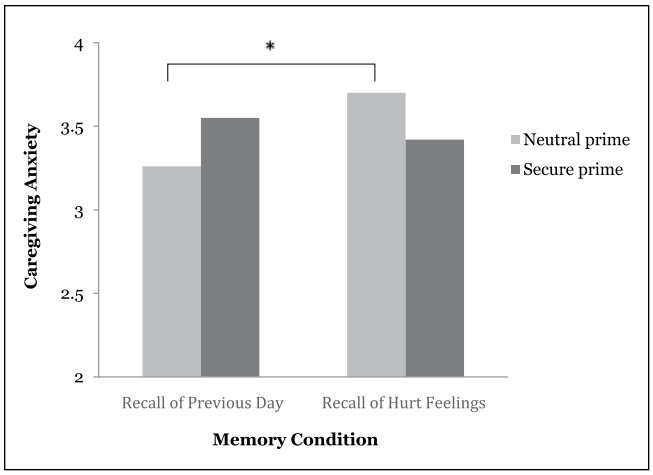

Figure 4. Interaction between memory and priming conditions predicting caregiving anxiety in Study 2.

Priming interaction was significant, β = –.27, p = .043. Specifically, recalling hurt feelings significantly increased participants' caregiving anxiety if they received the neutral prime (β = .45, p = .041), but not if they received the secure prime (β = –.11, p = .547; see Figure 4).

There were no main effects of attachment anxiety or avoidance on caregiving anxiety and no significant interactions with experimental conditions. (There was, however, a significant effect of IRI personal distress, β = .41, p < .001.)

Caregiving avoidance. Results of the regression predicting caregiving avoidance revealed no main effects or interactions of the experimental conditions, all ps > .05.

There were no main effects of attachment anxiety or avoidance on caregiving avoidance and no significant interactions with experimental conditions. (There was a significant effect of IRI empathic concern, β = –.51, p < .001.)

Discussion

As expected, and replicating Study 1, memories of being hurt lowered Study 2 participants' mood. In Study 2, unlike Study 1, memories of being hurt had a nearly significant *strengthening* effect on empathy for a suffering woman whose male partner had been unfaithful, perhaps because the participants identified with her in terms of age, circumstances, and relationship-related hurt feelings. Moreover, Study 2 differed from Study 1 in that security priming did not have a main effect on outcome. Instead, security priming interacted with the participants' dispositional attachment anxiety, such that dispositionally attachment-anxious participants did not show the high empathic levels of other participants unless they were primed with security. This fits with prior evidence that dispositional attachment anxiety is associated with self-focus under threat, making it difficult to attend to the needs of other people (Mikulincer et al., 2001; Mikulincer et al., 2005). Furthermore, it fits with previous research showing that security priming can increase compassion and care for others.

In Study 2, but not in Study 1, there was an interaction between hurt feelings and security priming in predicting caregiving anxiety. Without security priming, recalling hurt feelings increased caregiving anxiety, but this did not happen for participants who received security priming. Unlike in Study 1, there were no effects of the experimental manipulations or the dispositional attachment variables on caregiving avoidance, suggesting that the source of interference with caring was not a desire to distance oneself from a suffering other, but instead was anxiety related to problems in providing the needed care. That discomfort was reduced by security priming. Thus, in both Studies 1 and 2, an increase in security increased empathy for a suffering other but did so in different ways—in Study 1 by reducing the tendency to distance oneself from a dissimilar target, and Study 2 by reducing one's personal distress in ways that made room for empathy toward a similar target.

General Discussion

Our main conclusion is that calling to mind an experience of being hurt by a close relationship partner lowered participants' mood and influenced their degree of empathy for a suffering stranger, but the nature of this influence varied as a function of the stranger's circumstances and similarity to the participant. In Study 1, the person in need (a poor, middle-aged, homeless

woman) was quite unlike the participants, and recalling hurt feelings (as compared with recalling a neutral experience) *decreased* participants' empathy and increased their caregiving avoidance. This result indicates that there are times when personal recall and reexperiencing of suffering *reduces* one's inclination to help others, and it does so partly by increasing caregiving avoidance (indicated by such questionnaire items as "It's hard for me to work up much interest in helping people like Lisa," "I feel that helping Lisa would be a waste of time"). In contrast, in Study 2, the person in need (a college-aged young woman whose distress stemmed from relationship betrayal and a breakup) was more similar to the participants and suffered from a kind of problem that many of them may have experienced; in this context, being reminded of past hurt feelings not only *increased* participants' empathy for the distressed woman, but it also aroused caregiving anxiety (indicated by self-focused items such as "I worry that I wouldn't be as good at helping Lisa and people like her as other people are," "I would feel bad if I offered to help people like Lisa, and they didn't want my help"), which in real life can interfere with helping effectively (e.g., Batson, 2010).

In both studies, security priming protected participants from the undesirable effects of feeling hurt. In Study 1, security priming increased empathy for the suffering stranger, and it interacted with hurt feelings to increase empathy and reduce caregiving avoidance. Participants who were reminded of past hurt feelings were seemingly inclined to distance themselves from a poor middle-aged woman, but security priming reduced this distancing tendency. In that study, there were no interactions with participants' dispositional attachment anxiety and avoidance, even though there was an overall negative effect of attachment-related avoidance on empathy, as in previous research (reviewed by Mikulincer & Shaver, 2016).

In Study 2, where the troubled woman was more similar to the participants and had been hurt by a relationship partner, security priming did not have a main effect on empathy, but instead interacted with participants' dispositional attachment anxiety: The more attachment-anxious participants were less empathic, *unless* they had been primed with attachment security. This result fits with prior evidence that dispositional attachment anxiety is associated with self-focus, strong negative emotions, and rumination, making it difficult to attend to others' needs (Mikulincer et al., 2001; Mikulincer et al., 2005). In Study 2, the caregiving anxiety associated with recalling one's own hurt feelings was reduced by security priming.

In sum, across both studies, participants' recall of hurt feelings produced defensive barriers to helping a suffering stranger, but the nature of the barriers differed as a function of the similarity between participants and target. In both cases, security priming weakened the barriers: In Study 1, security priming reduced the tendency to avoid caregiving, and in Study 2, it reduced the tendency to feel anxious about providing care. Therefore, there were benefits of augmented security regardless of the specific personal and contextual forces working against providing care.

When a person in need is viewed as unfamiliar, dirty, off-putting—and unlike oneself—the self-protective tendency is dismissive and avoidant. When the person in need is similar to oneself and suffering from psychological pain due to a relationship partner, the self-protective tendency (caregiving anxiety) is to become concerned about one's own ability to serve as an adequate helper. The fact that security priming is helpful in both cases underscores previous correlational findings that both kinds of barriers to effective caregiving are related to insecurity (see review by Mikulincer & Shaver, 2016). Hence, receiving a security "boost" reduces both forms of insecurity.

An interesting difference in the results from Studies 1 and 2 is that in Study 1, there was no interaction between dispositional attachment and avoidance, on one hand, and the experimental variables (memory of hurt feelings and security priming), on the other, whereas in Study 2, participants who scored higher on attachment anxiety did not show an increase in empathy following the recall of hurt feelings unless they were exposed to security priming. The reason participants' dispositional attachment anxiety and avoidance played no interactive role in Study 1 might be that the sorts of needs the homeless woman had in that study—physical, economic, and other nonrelationship needs—did not activate attachment-related fears. In contrast, the relationship betrayal experienced by the young woman in Study 2 was likely to be particularly threatening to people high on attachment anxiety, who are characterized by fear of rejection and abandonment (e.g., Collins & Read, 1990; Feeney & Noller, 1990). The particularly threatening circumstances faced by the young woman, along with recall of their own experience of having been hurt (perhaps betrayed) by a close relationship partner, is a particularly threatening combination for attachment-anxious individuals, resulting in increased self-focus and reduced capacity to attend effectively to the needs of others.

Limitations and Future Directions

Although the present studies are a valuable step in understanding the role of attachment security in fostering effective caregiving for needy others, they are subject to certain limitations.

First, although our findings are consistent with the idea that participant–target similarity influences the ways in which hurt feelings create barriers to helping, the two scenarios differed in additional ways that could have influenced empathic responses. First, Study 2 presents a longer essay, with more details surrounding the circumstances of young adult Lisa's suffering, and includes more comments in Lisa's first-person voice, which may trigger greater identification with the character regardless of age and circumstances. The

essay in Study 1 mentions a crucifix around middle-aged Lisa's neck, which could trigger associations regarding religious identifications. In Study 2, Lisa was hurt by a relationship partner, similar to the hurtful partner priming manipulation that some participants received, whereas in Study 1, Lisa lost her job, an event dissimilar to either priming manipulation. In other words, although participant–target similarity differed across studies, so did additional potentially influential factors that should be explored in future research.

Second, our measures of empathy and intention to help were based on self-reports; we cannot be sure that they would translate into actual behavior outside the laboratory, although other studies of dispositional security and empathy (e.g., Gillath et al., 2005) have shown that security is related to actual altruistic involvement in communities. In future studies, it will be important to include behavioral measures. Third, the present study is limited because participant similarity to the target was not manipulated within a single study; such research will provide additional important information about the role of this dimension. Fourth, we looked at immediate effects of supraliminal security priming. Other studies (e.g., Mikulincer et al., 2005) have shown that subliminal security priming has similar beneficial effects on compassion and altruism. Studies like the ones presented here should be replicated with subliminal priming techniques, as these may be less subject to experimental demand effects. But supraliminal priming is important as well, because it is more likely to be useful in real-world, nonlaboratory situations. Fifth, because our priming manipulation was brief, it will be important to test the effects of longer term, repeated priming methods. We assume (but have not tested) that the brief priming methods used here do not have lasting effects. Sixth, more research is needed to discover *how* hurt feelings and security priming generate their effects.

In addition, there are several factors that are known to influence empathy and helping, and including these factors in future studies will add important information about security priming and empathic responding. For instance, our protagonists were women and we do not know whether the observed effects would be replicated with needy men. In addition, most of our participants were woman, thereby leading to increased similarity between protagonists and participants. Future studies should examine the effects of protagonist gender and its interaction with participant gender.

Another factor known to influence helping is attribution of responsibility for the problem. In Weiner's (1985) attribution theory of emotions, compassion should be aroused when the needy person is not appraised as responsible for the problem (i.e., the problem was caused by external and uncontrollable factors). In our studies, Lisa is not responsible for becoming homeless—budget problems led the shelter to close, and because of loss no family member was available to provide aid—and as such our scenarios likely heightened willingness to help. Future studies are needed of the effects of security priming in scenarios where the needy person could be appraised as responsible for causing the problem (e.g., reckless driving that led to the death of a spouse).

In addition, the wish to reduce one's own discomfort emerging from witnessing another's suffering is a factor that can account for helping. For instance, anticipation of mood-enhancement by means other than helping (e.g., expecting to watch a comic film) reduces helping (e.g., Cialdini et al., 1987; Schaller & Cialdini, 1988). In the present studies, participants had no other means to enhance their mood—only the option to help the distressed women—and as such our design could have contributed to heightened willingness to help (because there was no alternative way to improve mood). In the study by Mikulincer et al. (2005, Study 3), this variable was manipulated, revealing that security priming increased helping even when participants anticipated mood-enhancement by other means. Future studies should examine whether this would also be the case in studies examining hurt feelings and target similarity.

Finally, although our studies suggest that various barriers to empathy and understanding are likely to arise—and that security inductions of various kinds can help remove these barriers—more research on effective interventions is needed. The studies reported here have implications for both clinical interventions in couple relationships (e.g., marital therapy) and community interventions designed to increase empathy, compassion, and altruism. Some marital therapists are already including attachment-oriented interventions (e.g., Brassard & Johnson, 2016), and one of the goals of many marital therapists is to foster empathy and understanding between partners, often following prolonged arguments, betrayal, or abuse. As for broader interventions, it may be possible to create security inductions that can be used in group settings or with individuals through mass media or social media. Such methods, although promising, would require careful evaluation by both researchers and ethicists.

Conclusion

Psychological pain, in the form of hurt feelings, influences individuals' care for others, and the ways in which that influence is manifest varies as a function of the target's similarity to the helper. When the impact of hurt feelings is negative, a dose of attachment security allows a better outcome to be achieved.

Stepping back from specific studies, it is astonishing how much evidence is now in hand concerning the benefits of both dispositional and experimentally augmented attachment security in parenting, couple relationships, friendships, group relations, organizations, and even, as we show here, in interactions with strangers (for extensive reviews, see Cassidy & Shaver, 2016; Mikulincer & Shaver, 2016; Shaver et al., 2016). More work is needed to illuminate the ways in which security interacts with contextual factors to yield favorable personal and social outcomes. Because relationship difficulties and hurt

feelings are an inevitable part of social life, and because the need for social support and other forms of assistance is ubiquitous, it is important to learn as much as possible about the dynamic influences on individuals' care for others.

Acknowledgments

The authors are grateful to those who participated in our study, and to the University of Maryland undergraduate research assistants who helped with data collection: Samiha Islam, Maria Nasios, Suzy Mejia-Buenano, Emily Pigott, and Caroline Shea.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Jessica Stern's contribution was supported in part by the National Science Foundation Graduate Research Fellowship Program (No. DGE 1322106).

Supplemental Material

Supplementary material is available online with this article.

References

Baldwin, M. W., Keelan, J. P. R., Fehr, B., Enns, V., & Koh-Rangarajoo, E. (1996). Social-cognitive conceptualization of attachment working models: Availability and accessibility effects. *Journal of Personality and Social Psychology*, *71*, 94-109.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, *61*, 226-244.

Batson, C. D. (2010). Empathy-induced altruistic motivation. In M. Mikulincer & P. R. Shaver (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 15-34). Washington, DC: American Psychological Association.

Bowlby, J. (1973). *Attachment and loss, Vol. 2: Separation*. New York, NY: Basic Books.

Bowlby, J. (1982). *Attachment and loss, Vol. 1: Attachment*. New York, NY: Basic Books. (Original work published 1969)

Brassard, A., & Johnson, S. M. (2016). Couple and family therapy: An attachment perspective. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (3rd ed., pp. 805-823). New York, NY: Guilford Press.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York, NY: Guilford Press.

Bretherton, I., & Munholland, K. A. (2016). The internal working model construct in light of contemporary neuroimaging research. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 63-88). New York, NY: Guilford Press.

Cassidy, J., & Shaver, P. R. (Eds.). (2016). *Handbook of attachment: Theory, research, and clinical applications* (3rd ed.). New York, NY: Guilford Press.

Cassidy, J., Shaver, P. R., Mikulincer, M., & Lavy, S. (2009). Experimentally induced security influences response to psychological pain. *Journal of Social and Clinical Psychology*, *28*, 463-478.

Cialdini, R. B., Brown, S. L., Lewis, B. P., Luce, C., & Neuberg, S. L. (1997). Reinterpreting the empathy-altruism relationship: When one into one equals oneness. *Journal of Personality and Social Psychology*, *73*, 481-494.

Cialdini, R. B., Schaller, M., Houlihan, D., Arps, K., Fultz, J., & Beaman, A. L. (1987). Empathy-based helping: Is it selflessly or selfishly motivated? *Journal of Personality and Social Psychology*, *52*, 749-758.

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, *58*, 644-663.

Crowell, J. A., Fraley, R. C., & Roisman, G. I. (2016). Measurement of individual differences in adult attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (3rd ed., pp. 598-638). New York, NY: Guilford Press.

Curry, O., & Dunbar, R. I. (2013). Do birds of a feather flock together? *Human Nature*, *24*, 336-347.

Dalai Lama. (2002). *The heart of compassion*. Boston, MA: Little, Brown.

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, *44*, 113-126.

Dunbar, R. I. M. (2008). Mind the gap: Or why humans aren't just great apes. *Proceedings of the British Academy*, *154*, 403-423.

Eysenck, S. B., Eysenck, H. J., & Barrett, P. (1985). A revised version of the psychoticism scale. *Personality and Individual Differences*, *6*, 21-29.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175-191.

Feeney, J. A. (2009). When love hurts: Understanding hurtful events in couple relationships. In A. L. Vangelisti (Ed.), *Feeling hurt in close relationships* (pp. 313-335). New York, NY: Cambridge University Press.

Feeney, J. A., & Noller, P. (1990). Attachment style as a predictor of adult romantic relationships. *Journal of Personality and Social Psychology*, *55*, 281-291.

Figley, C. R. (2002). *Treating compassion fatigue*. New York, NY: Brunner-Routledge.

Francis, L. J., Brown, L. B., & Philipchalk, R. (1992). The development of an abbreviated form of the Revised Eysenck Personality Questionnaire (EPQR-A): Its use among students in England, Canada, the USA and Australia. *Personality and Individual Differences*, *13*, 443-449.

Gilbert, P. (Ed.). (2005). *Compassion: Conceptualisations, research and use in psychotherapy*. London, England: Routledge.

Gillath, O., Shaver, P. R., Mikulincer, M., Nitzberg, R. E., Erez, A., & IJzendoorn, M. H. (2005). Attachment, caregiving, and volunteering: Placing volunteerism in an attachment-theoretical framework. *Personal Relationships*, *12*, 425-446.

Gray-Little, B., Williams, V. S. L., & Hancock, T. D. (1997). An item response theory analysis of the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, *23*, 443-451.

Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling* (White Paper). Retrieved from http://www.afhayes.com/public/process2012.pdf

Mikulincer, M., Gillath, O., Halevy, V., Avihou, N., Avidan, S., & Eshkoli, N. (2001). Attachment theory and reactions to others' needs: Evidence that activation of the sense of attachment security promotes empathic responses. *Journal of Personality and Social Psychology*, *81*, 1205-1224.

Mikulincer, M., Gillath, O., Sapir-Lavid, Y., Yaakobi, E., Arias, K., Tal-Aloni, L., . . . Bor, G. (2003). Attachment theory and concern for others' welfare: Evidence that activation of the sense of secure base promotes endorsement of self-transcendence values. *Basic and Applied Social Psychology*, *25*, 299-312.

Mikulincer, M., & Shaver, P. R. (2007). Boosting attachment security to promote mental health, prosocial values, and inter-group tolerance. *Psychological Inquiry*, *18*, 139-156.

Mikulincer, M., & Shaver, P. R. (2010). Does gratitude promote prosocial behavior? The moderating role of attachment security. In M. Mikulincer & P. R. Shaver (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 267-283). Washington, DC: American Psychological Association.

Mikulincer, M., & Shaver, P. R. (2016). Adult attachment and affect regulation. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (3rd ed., pp. 507-533). New York, NY: Guilford Press.

Mikulincer, M., Shaver, P. R., Gillath, O., & Nitzberg, R. A. (2005). Attachment, caregiving, and altruism: Boosting attachment security increases compassion and helping. *Journal of Personality and Social Psychology*, *89*, 817-839.

Mikulincer, M., Shaver, P. R., Sahdra, B. K., & Bar-On, N. (2013). Can security-enhancing interventions overcome psychological barriers to responsiveness in couple relationships? *Attachment & Human Development*, *15*, 246-260.

Pulos, S., Elison, J., & Lennon, R. (2004). The hierarchical structure of the Interpersonal Reactivity Index. *Social Behavior and Personality*, *32*, 355-359.

Rosenberg, M. (1979). *Conceiving the self*. New York, NY: Basic Books.

Schaller, M., & Cialdini, R. B. (1988). The economics of empathic helping: Support for a mood management motive. *Journal of Experimental Social Psychology*, *24*, 163-181.

Shaver, P. R., Mikulincer, M., Gross, J. T., Stern, J. A., & Cassidy, J. A. (2016). A lifespan perspective on attachment and care for others: Empathy, altruism, and prosocial behavior. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (3rd ed., pp. 878-916). New York, NY: Guilford Press.

Shaver, P. R., Mikulincer, M., Lavy, S., & Cassidy, J. (2009). Understanding and altering hurt feelings: An attachment-theoretical perspective on the generation and regulation of emotions. In A. L. Vangelisti (Ed.), *Feeling hurt in close relationships* (pp. 92-122). New York, NY: Cambridge University Press.

Shaver, P. R., Mikulincer, M., & Shemesh-Iron, M. (2010). A behavioral systems perspective on prosocial behavior. In M. Mikulincer & P. R. Shaver (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 73-92). Washington, DC: American Psychological Association.

Stern, J. A., & Cassidy, J. (in press). Empathy from infancy to adolescence: An attachment perspective on the development of individual differences. *Developmental Review*.

Waters, H. S., & Waters, E. (2006). The attachment working models concept: Among other things, we build script-like representations of secure base experiences. *Attachment & Human Development*, *8*, 185-197.

Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). The Experiences in Close Relationship Scale (ECR)-short form: Reliability, validity, and factor structure. *Journal of Personality Assessment*, *88*, 187-204.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, *92*, 548-573.