

Can't get you out of my mind: Empathy, Distress, and Recurring Thoughts about a Person in Need

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Abstract

Research suggests that empathic concern and distress give rise to different patterns of helping behavior. It has been proposed that this difference is caused by the effects of these emotions on recurrent thoughts about the person in need. However, no research has directly investigated this potential explanation. To remedy this, we tested the hypotheses that distress, but not empathic concern, is associated with both anticipated recurring thoughts (Study 1) and experienced recurring thoughts (Study 2) about a victim. We also tested the hypothesis that distress is associated with thoughts about the victim, whereas empathic concern is associated with thoughts about the victim's situation (Study 3), which is potentially a consequence of the motives associated with each emotion. Lastly, we assessed the causal relations between distress, empathic concern, and recurrent thoughts (Study 4). Overall, results demonstrate a distinctive, and important, pattern of associations among empathic concern, distress, and different forms of recurrent thoughts about an emotion-eliciting stimulus.

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Why is exposure to the suffering of another sometimes so easy to remember and yet, at other times, so easy to forget? One possible answer is the nature of the emotional response that the suffering other elicits. Previous research suggests that witnessing a person in clear need can evoke at least two distinct emotional responses – empathic emotions and distress-related vicarious emotions (for a review, see Batson, 2011). It is important to note that these two emotional responses are not only logically distinct, but also empirically distinguishable. Coke and colleagues (1978) developed an Emotional Response Questionnaire (ERQ) to assess empathic concern and distress caused by exposure to a person in need. A number of factor analyses have been conducted on this scale to demonstrate qualitative difference between these two emotional responses (e.g., Batson et al., 1979; Batson et al., 1983; Batson et al., 2007; Coke, 1980; Coke et al., 1978; Fultz, 1982; Toi & Batson, 1982). Also, dozens of experiments have demonstrated that vicarious distress and empathic concern have different motivational and behavioral consequences (for thorough reviews, see Batson, 2011; Dovidio, Piliavin, Schroeder, & Penner, 2006).

More recently, research in social neuroscience suggests that these two emotional responses to witnessing the suffering of others generate different patterns of neural activation (e.g., Lamm, Batson, & Decety, 2007). Taken together, the evidence

demonstrates that distress is not simply a form of empathic concern (or vice versa).

Before discussing the present research, it is important to clearly define what we mean by empathic concern and distress.

Empathic emotions can be defined as "other-oriented emotional response[s] congruent with the perceived welfare of another person" (Batson et al. 1988, p. 52). The most commonly-studied form of empathic emotion is empathic concern, which is a situational emotional response to witnessing another person in clear need (Batson, 2001). According to the Empathy-Altruism Hypothesis, empathy evokes an altruistic motive to benefit the suffering person rather than an egoistic motive to benefit oneself (Batson, Bolen, Cross, & Neuringer-Benefield, 1986). For example, in a series of experiments in which participants observed a student experience a negative reaction to receiving electric shocks, empathically-aroused participants were more likely to take shocks on her behalf than were participants feeling relatively low levels of empathic concern (Batson & Coke, 1981; Batson et al., 1986).

In contrast, distress-related vicarious emotions can also be elicited by witnessing another person in need. Such emotions are assumed to elicit concern for one's own welfare or comfort rather than concern for the suffering person who elicited this negative feeling state (Batson & Coke, 1981). Distress has been shown to motivate individuals to engage in actions that result in escape from the eliciting target (Piliavin, Dovidio, Gaertner, & Clark, 1981) or that otherwise reduce the negative affective state evoked by witnessing another person suffer (Cialdini & Kenrick, 1976). For example, in the shock experiments described above, participants experiencing distress typically refused to take any shocks for the victim, so long as it was easy to avoid exposure to the victim (Batson,

O'Quin, Fultz, Vanderplas, & Isen, 1983). These same experiments, however, demonstrated that when participants were unable to avoid exposure to the victim, personal distress led to helping behavior.

Empathic Concern, Personal Distress, and Escaping Awareness of the Victim

Although the Empathy-Altruism Hypothesis does not make any claims about mental content that may be associated with empathic concern, the research designs used to test it are based on the assumption that empathic arousal does not promote recurring thoughts about the victim or the victim's situation. Hoffman (1981, 1991) and Hornstein (1991) argued that this assumption is both untested and unwarranted. Specifically, they pointed out that Batson and colleagues' most compelling evidence for the empathy-altruism hypothesis relies on experiments in which ease of avoiding continued exposure to the victim was used to differentiate altruistic motives (protecting another's welfare) from egoistic motives (reducing one's own aversive arousal). But does discontinuing direct contact with the empathy-inducing victim cause the observer to stop thinking about him or her? A number of researchers think not (e.g., Davis, Conklin, Smith, & Luce, 1996; Hoffman, 1991; Hornstein, 1991; Maner et al., 2002; Stocks, Lishner, & Decker, 2009).

Hornstein (1991) suggests, instead, that empathic concern actually "increases observers' cognizance of another's plight" (p. 134). Regarding evidence that Batson and colleagues have amassed in support of the empathy-altruism hypothesis, Hoffman (1991) noted that:

The findings fit Batson's prediction. But I do not believe they justify his conclusion that they demonstrate altruistic behavior . . . The major problem is one of design. Namely, the "easy escape" condition may not actually provide an easy escape for the high-empathy subjects because these subjects were adults who are capable of cognitively representing events. Being able to represent events, they must be credited with the capacity to respond emotionally when they know someone is suffering, even though they are not directly witnessing the suffering . . . Leaving the situation may not be an easy way out if one retains a vivid mental representation of the suffering victim (pp. 131-132).

It is possible that empathically-aroused participants in Batson and colleagues' studies helped simply because empathic concern causes recurring thoughts about the victim. If this is the case, then leaving the situation does not allow participants to achieve an egoistic goal of reducing the unpleasant arousal caused by exposure to the suffering person.

To test the claim that empathically-aroused participants help because they are unable to psychologically escape thoughts about the victim, Stocks and colleagues (2009) directly manipulated the ease of psychologically escaping awareness of a victim's suffering through the use of two memory-altering manipulations. Specifically, in Study 1 Stocks and colleagues manipulated the likelihood of recurring thoughts about a person in clear need using a hypnosis manipulation that would (ostensibly) permanently implant or permanently delete memories about the victim stimulus. In a follow-up study, the likelihood of recurring thoughts about the other in need was manipulated with information about how likely it is to forget victim-relevant information. The results of

these studies were consistent with Batson and colleagues' findings – empathically-aroused participants helped to a greater degree than participants experiencing little or no empathy, even when they were convinced that they would not have recurring thoughts about the victim.

Cognitive Consequences of Vicarious Emotions

The critique of research on the Empathy-Altruism Hypothesis noted above suggests a topic of inquiry that is larger, and of more broad interest, than helping behaviour research per se – that vicarious emotional reactions to events in the life of another person can have important cognitive consequences. These consequences may include anticipated, or experienced, recurring thoughts about the person who elicited those emotional reactions. If this claim has merit, which of the vicarious emotions produces this consequence? And, how does this process operate?

Although to our knowledge no research has directly investigated the relationship between vicarious emotions and recurring thoughts about the eliciting stimulus, a related line of research on self-rumination suggests that intrusive thoughts about oneself may impede intrapersonal and interpersonal functioning, and are linked with both depression (Ingram & Smith, 1984) and neuroticism (Trapnell & Campbell, 1999). In a similar vein, Joireman, Parrott, and Hammersla (2002) found that empathy was positively related to self-reflection, whereas personal distress was positively related to self-rumination. It is important to note, however, that (a) research on rumination described above conceptualizes empathy and distress as personality traits rather than as situational emotional responses to events in the lives of others, and (b) the purpose of that research is

to assess rumination about self rather than recurring thoughts about another person. Consequently, the literature on self-rumination does not directly address the topic at hand – situational vicarious emotions and how they relate to recurring thoughts about another person.

Another important difference between existing research and the present research involves the manner in which recurring thoughts is assessed. Logically, there are at least two types of possible thoughts about another person in need. First, one may *anticipate* that he or she will continue to think about the other person or the person's situation. This form of thought is at the heart of the critique of Empathy-Altruism Hypothesis research noted above. Second, one may actually *experience* recurring thoughts over a period of time – that is, continued thoughts about the person after exposure to him or her has ended. It is important to note that anticipated recurring thoughts may or may not yield experienced recurring thoughts. For example, a person may expect that he or she will be unable to forget a certain stimulus, only to later realize that the stimulus never actually came to mind again. Or, one may not expect to think about a certain stimulus at all, yet intrusive thoughts nonetheless occur for a long period of time. The aim of our research is to study the relationship between situational vicarious emotions (i.e., emotions elicited by exposure to the other person), and both anticipated and experienced recurring thoughts about the eliciting person or the person's situation. Studying both forms of thought is important not only for researchers attempting to understand how vicarious emotions relate to prosocial motives and behaviour, but also for researchers attempting to better understand cognitive consequences of vicarious emotional responding in general.

Hypotheses and Overview of Present Research

In an effort to better understand the relationships between empathic concern, distress, and recurring thoughts, we conducted a series of studies to test the following hypotheses:

Hypothesis 1: *Distress (but not empathic concern) is associated with anticipated recurring thoughts about the victim.* We tested this hypothesis in Study 1 by exposing participants to a victim in clear need, measuring situational empathic concern and distress, as well as the extent to which they anticipated thinking about the victim in the future. Although inspired by the critique of research on the Empathy-Altruism Hypothesis noted above (i.e., that empathic concern causes recurring thoughts about the victim), we predict the opposite outcome for two reasons.

First, there is no evidence to support the claim that empathy does, in fact, influence recurring thoughts at all. The critiques of the Empathy-Altruism Hypothesis that inspired our line of research were speculation, and no published studies have directly tested those claims. Second, our predictions stem largely from Stocks and colleagues' (2009) finding that manipulating thoughts about the victim did not eliminate the association between empathic concern and helping. This suggests that recurring thoughts were not a causal factor in the empathic concern-helping relationship. This manipulation did, however, substantially reduce the association between personal distress and helping, which suggests that recurring thoughts may be an important moderator of this relationship. Hypothesis 1 is also conceptually consistent with Joireman and colleagues' (2002) finding that distress, but not empathy, is associated with another form of recurring thoughts -- self-rumination. Although Joireman and colleagues' research involves dispositional (rather than situational) empathy and distress, as well as self-

rumination rather than recurring thoughts about another person, we believe that these two phenomena likely operate via similar mechanisms, albeit with different content.

Hypothesis 2: *Distress (but not empathic concern) is associated with experienced recurring thoughts about the victim.* We tested this hypothesis in Study 2 by having participants return to the laboratory two days after exposure to the victim to report the number of times they thought about the victim during that two-day period. The logic behind this hypothesis is the same as Hypothesis 1. Study 2 also afforded a second test of Hypothesis 1 with a different scenario and presentation modality, which offers an assessment of the generalizability of this phenomenon to a different victim and need situation.

Hypothesis 3: *Distress is associated with anticipated and experienced recurring thoughts about the victim (but not the victim's situation), whereas empathic concern is associated with anticipated and experienced recurring thoughts about the victim's situation (but not about the victim).* We tested this hypothesis in Study 3 by using the victim stimulus from Study 1, combined with the thought-assessment procedures from Study 2. The primary difference in the procedure of Study 3 is that participants were asked to report the focus of their thoughts – that is, thoughts about the victim versus thoughts about the victim's situation.

The rationale for this hypothesis stems from research on two different topic areas. The first involves research on the One-Among-Others Effect (e.g., Oceja, Ambrona, López-Pérez, Salgado, & Villegas, 2010; Oceja, Heerdink, Stocks, López-Pérez, & Salgado, 2014; Oceja, Stocks, & Lishner, 2010). This research demonstrates that

observers can focus on either (a) a specific victim, or (b) the victim's need situation, especially when multiple victims are affected by a similar need. The likelihood of offering help increases with congruence between the beneficiary of help (the specific individual vs. multiple individuals with the same need) and the focus of attention that generated empathic emotions for the victim in the first place (the victim vs. the victim's need situation). Or, to put this more simply, people are more likely to help when the opportunity to help will benefit the emotion-eliciting stimulus (e.g., multiple people suffering a specific need) rather than a related, but different stimulus (e.g., a specific individual suffering from that need). Although that line of research does not report the association between empathic concern, distress, and observers' focus of attention, it does suggest that observers have the ability to focus on either a victim or the victim's situation, and that this focus of attention has important behavioural consequences.

The second research area of relevance to this hypothesis is on the different motives associated with empathic concern and distress (for thorough reviews, see Batson, 2011; Dovidio et al., 2006). Dozens of studies have found that empathic concern is associated with a motive to help the victim. In order to help the victim, it is necessary to understand the victim's situation and to consider appropriate actions that will remedy it (e.g., Latane & Darley, 1968). Consistent with this reasoning, Batson and colleagues (1988, Study 5) used a Stroop Task to determine the content of thoughts among participants experiencing high versus low empathic concern, and the relationship between these thoughts and helping behaviour. They found that empathic concern was associated with increased latency when responding to words relevant to the victim's need, which indicates that this mental content was present. The increased latency of need-situation

thoughts was positively associated with helping behaviour. This suggests that the need situation of the victim was on the minds of empathically-aroused participants, but not on the minds of participants experiencing relatively low levels of empathy. Unfortunately, the relation between empathic concern and thoughts about the victim *per se*, and the relation between distress and any type of mental content, were not reported in this research.

It is important to note, however, that other research has demonstrated an association between distress and a desire to escape the source of aversive arousal. In most cases, the source of aversive arousal is the suffering victim, and the goal is to either halt current exposure to the victim or to avoid future exposure to the victim (Dovidio et al., 2006). This argument is at the core of the Arousal/Cost Reward Model of helping behaviour, which has found empirical support in numerous studies. If this model is accurate, experiencing distress is likely associated with mental content related to the stimulus to be escaped – the victim. We are not aware of any existing research directly testing the association between distress and mental content associated with a victim or the victim's situation. Accordingly, Study 3 is an attempt to address this important gap in the literature.

Study 4 employed an essay-writing task to directly manipulate emotional response (empathic concern vs. distress) in order to assess the causal relations between these two emotions and recurring thoughts about the victim or the victim's situation. The victim scenario in Study 4 was the same as was used in Studies 1 and 3, and the thought-assessment procedure was the same as was used in Study 3. This configuration afforded

us a second opportunity to test Hypothesis 3 regarding the relation between empathic concern, distress, and the focus of recurring thoughts.

We also included an Affect Grid (Russel, Weiss, & Mendhelson, 1989) in Study 4 to measure the valence and intensity of participants' emotional responses so that we might better understand the patterns of association between empathic concern, distress, and recurring thoughts. The purpose of including a measure of valence and intensity was largely exploratory, and we make no *a priori* predictions about this measure. However, it is possible that empathic concern and distress differ in valence or intensity, and it is this difference – rather than the type of vicarious emotion per se – that produces the patterns of recurring thoughts reported here (cf. Feldman-Barrett, & Russel, 1998; López-Pérez, Carrera, Ambrona, & Oceja, 2014). Taken together, these four studies constitute an important first step toward better understanding the role of empathy- and distress-related emotions in recurring thoughts about another person.

Study 1: Empathic Concern, Distress, and Anticipated Recurring Thoughts

Method

The purpose of Study 1 is to test the hypothesis that *distress, but not empathic concern, is associated with anticipated recurring thoughts about the victim.*

Participants. Eighty participants (60 Female) from a Southwestern university in the United States participated in this study in exchange for extra credit (age ranged from 18 to 42, $M = 21.29$, $SD = 3.02$).

Procedure and Measures. Participants were schedule in a single group session lasting approximately 15 minutes. Participants were asked to read and sign an informed consent document, after which an audio-taped introduction and cover story were presented. The audio-taped introduction described the study as an attempt to understand people's memory for different types of news reports. After listening to the cover story, participants were given an (ostensibly real) newspaper article to read. Participants were led to believe that there were a number of different newspaper articles being used in the study. In reality, however, every participant read the same article. This article that all participants read described Jane Seiber, a young woman undergoing treatment for myeloid leukemia.

After reading the article, participants completed an the Emotional Response Questionnaire (ERQ) that contained emotion adjectives to assess empathic concern (compassionate, moved, sympathetic, softhearted, tender, and warm) and distress (upset, worried, grieved, disturbed, distressed, and troubled), as well as a number of filler adjectives, each rated on a 1 (Not at All) to 7 (Very Much) Likert scale. These emotion terms were combined to form indexes of empathic concern (Cronbach's $\alpha = .88$) and distress (Cronbach's $\alpha = .89$). This approach to assessing empathic concern and distress was developed Batson and colleagues, and a number of factor analyses have been conducted to demonstrate the qualitative difference between these emotional states (e.g., Batson et al., 1979; Batson et al., 1983; Batson et al., 2007; Coke, 1980; Coke et al., 1978; Lopez-Perez et al., 2014; Toi & Batson, 1982).¹

Participants then completed a second questionnaire that, in addition to a number of filler items, contained two items to assess anticipated recurring thoughts. These items

were “To what extent do you anticipate thinking about the article you read during the next 15 minutes?” and “To what extent do you anticipate thinking about the article you read during the next 60 minutes?” each rated on a 1 (Not at all) to 9 (Very Much) Likert scale. After participants completed these measures, a full debriefing was conducted. Participants were informed that the victim stimulus was a fabrication developed for use in the study.

Results and Discussion

There were no significant effects of gender on any key dependent variables, so this factor will not be discussed further.² Overall, participants reported feeling more empathic concern ($M = 4.31$, $SD = 1.25$) than distress ($M = 3.14$, $SD = 1.48$) for the victim, $t(79) = 8.87$, $p < .001$.³ Also, the extent to which participants anticipated having recurring thoughts about the stimulus during the next 15 minutes ($M = 4.63$, $SD = 2.35$) and 60 minutes ($M = 3.66$, $SD = 2.55$) were close to the midpoint of their respective 9-point scales. Thus, the results reported below cannot be attributed to ceiling or floor effects on the primary dependent variables.

Due to significant overlap between the empathic concern and distress indices, $r(78) = .64$, $p < .001$, partial correlations were employed to assess the unique association of empathic concern and distress with anticipated recurring thoughts. Empathic concern, controlling for distress, was not significantly correlated with anticipated recurring thoughts during the 15-minute period [$r(78) = .01$, $p = ns$] or the 60-minute period [$r(78) = .01$, $p = ns$]. In contrast, distress, controlling for empathic concern, was significantly correlated with anticipated recurring thoughts during the 15-minute period [r

(78) = .26, $p = .02$] and 60-minute period [$r(78) = .27, p = .01$]. The two anticipated thought items were correlated, $r(78) = .81, p < .001$. See Table 1 for more details.

Study 2: Empathic Concern, Distress, and Experienced Recurring Thoughts

The results of Study 1 suggest two things. First, emotions elicited by a person in need are, indeed, associated with anticipated recurring thoughts about that person. Second, it is distress, rather than empathy, that was associated with recurring thoughts about the victim. This supports our Hypothesis 1.

In order to further test our hypotheses, we conceptually replicated Study 1 with several important changes to the procedure. First, we extended the timeframe of anticipated recurring thoughts to 48 hours. Second, participants returned to the lab 48 hours after exposure to the victim and we measured the amount of recurring thoughts they actually experienced during that two-day period. Third, we changed the victim (an older male vs. a younger female) and need situation (homelessness vs. a disease). Fourth, we used a different presentation modality (audio vs. text). These purpose of changing the victim, need situation, and modality was to assess the generalizability of the pattern of results from Study 1. We predict that distress, but not empathic concern, will be associated with anticipated recurring thoughts about the victim (Hypothesis 1). We also predict that distress, but not empathic concern, will be associated with experienced recurring thoughts about the victim (Hypothesis 2).

Method

Participants. Sixty freshman students (39 Females) from a Midwestern university in the United States participated in Study 2 in exchange for extra credit (age ranged from 18 to 28, $M = 19.65$, $SD = 1.63$).

Procedure and Measures. Participants were run through the procedure in several large group sessions. Upon arrival, participants were asked to read a written introduction to the study, then to read and sign an informed consent statement. The written introduction explained that participants would listen to a brief radio broadcast and report their attitudes about the broadcast. The audio clip that participants heard after reading the introduction to the study depicted an interview with Harold Mitchell, a homeless man, describing his struggles. In reality, the clip was created for use in research, and the script was read by an actor.

After listening to the audio clip, participants completed a series of questionnaires. The first questionnaire contained the ERQ used in Study 1 to calculate empathic concern (Cronbach's $\alpha = .89$) and distress (Cronbach's $\alpha = .92$) indices. The second questionnaire contained several items consistent with the cover story and an item to assess how frequently participants expected to think about the person in the audio segment over the next two days, rated on a 5-point Likert scale (0 = 0 times; 1 = 1-3 times; 2 = 4-6 times; 3 = 7-10 times; 4 = 11-13 times; 5 = 14 or more times). During a second session 48 hours later, participants completed a questionnaire that contained a similar item to assess how frequently participants thought about the person in the audio clip during the previous 48 hours, using the scale described above. Responses from the first set of questionnaires were matched to the second questionnaire using a participant-generated code number. A

full debriefing was conducted after the second session, and participants were informed that the victim stimulus was fabricated for use in the study.

Results and Discussion

Due to the significant overlap between the empathic concern and distress, $r(58) = .70, p < .001$, partial correlations were employed to assess the unique association of these emotions with both anticipated and experienced recurring thoughts. Empathic concern, controlling for distress, was not significantly correlated with either anticipated [$r(58) = -.05, p = .73$] or experienced [$r(58) = -.16, p = .22$] recurring thoughts about the victim. Distress, controlling for empathic concern, was significantly correlated with both anticipated [$r(58) = .29, p = .03$] and experienced [$r(58) = .31, p = .02$] recurring thoughts about the victim. Anticipated and experienced recurring thoughts were also significantly correlated, $r(58) = .43, p < .001$. See Table 1 for more details.

Study 3: Anticipated Recurring Thoughts about the Person and the Situation

The results of Studies 1 and 2 reveal an interesting pattern of associations between empathic concern, distress, and recurring thoughts about the victim stimulus. Distress was associated with anticipated and experienced recurring thoughts about the victim, whereas empathic concern was not. This supports our Hypotheses 1 and 2. However, we did not directly investigate the focus of recurring thoughts in those two studies.

As noted above, it is possible to focus on either the victim or the victim's situation (cf., Oceja et al., 2010). It is also possible that empathic concern and distress are associated with different foci of recurring thoughts. The purpose of Study 3 is to clarify

the association between these different emotional responses and foci of these thoughts. Specifically, we test the hypothesis that *distress is associated with anticipated and experienced recurring thoughts about the victim, whereas empathic concern is associated with anticipated and experienced recurring thoughts about the victim's situation* (Hypothesis 3).

Method

Participants. Forty-four freshman students (32 Females) from a Midwestern university in the United States participated in this study in exchange for extra credit (age ranged from 18 to 48, $M = 21.93$, $SD = 6.42$).

Procedure and Measures. The procedure for this experiment was identical to the one used in Experiment 1 (Sick Jane), aside from one important change: We asked participants about two different forms of thought. Specifically, the first question asked, “To what extent do you anticipate thinking about *Jane* during the next 60 minutes? The second asked, “To what extent do you anticipate thinking about *Jane's situation* during the next 60 minutes?” Both items were rated on a 9-point Likert scale (1 = Not at all; 9 = Very much). The purpose of including these two items was to investigate the focus of recurring thought (the victim vs. the victim's situation) that may be associated with empathic concern and distress. The ERQ used in Study 3 to derive the empathic concern (Cronbach's $\alpha = .90$) and distress (Cronbach's $\alpha = .89$) indices was the same as in Studies 1 and 2. A full debriefing was conducted after participants completed these questionnaires.

Results and Discussion

Due to the significant overlap between the empathic concern and distress indices, $r(42) = .71, p < .001$, partial correlations were again employed. Empathic concern, controlling for distress, was significantly correlated with anticipated recurring thoughts about the *situation*, $r(42) = .47, p = .002$. Empathic concern, controlling for distress, was not significantly correlated with recurring thoughts about the *person*, $r(42) = .24, p = .11$.

Distress followed the opposite pattern. Distress, controlling for empathic concern, was significantly correlated with anticipated recurring thoughts about the *person*, $r(42) = .44, p = .003$. Distress, controlling for empathic concern, was not significantly correlated with recurring thoughts about the *situation*, $r(42) = .03, p = .83$. Thus, empathic concern was primarily associated with anticipated recurring thoughts about the situation, whereas distress was primarily associated with anticipated recurring thoughts about the victim. These results supported Hypothesis 3. See Table 2 for more details.

Study 4: Causal Relations between Distress, Empathic Concern, and Recurring Thoughts

The studies reported above support our three hypotheses. However, all three of these studies are correlational, so claims about the causal relations among empathic concern, distress, and recurring thoughts have yet to be addressed. The purpose of Study 4 is to directly manipulate empathic concern and distress in order to assess the causal relations between these emotions and the two foci of recurring thoughts discussed above (focus on the person vs. focus on the person's situation). This study design also allows us to further test Hypotheses 1, 2, and 3.

Method

Participants. Fifty undergraduate students (31 Females) from a Southwestern university in the United States participated in exchange for course extra credit (age ranged from 18 to 45, $M = 20.26$, $SD = 4.56$). It was necessary to exclude and replace one participant from the Empathic Concern Condition because she failed to complete the follow-up questionnaire.

Procedure and Measures. Participants were scheduled and run individually through a procedure that lasted approximately 20 minutes. Upon arrival at the laboratory, participants were randomly assigned to one of two conditions (Distress vs. Empathic Concern) and ushered to a private room. A computerized presentation explained that the study concerns how writing essays influences the way people read and remember essays written by other people. The description explained that participants would write a brief essay, read an essay written by another person, and then complete questionnaires about the essay they read. Participants were also asked to create a unique, anonymous identification number that they would use when they returned to complete a second research session two days later. The research assistant answered any questions the participant had, then left the participant to complete the study materials, all of which were presented via computer.

Distress Condition. Participant randomly assigned to the Distress Condition were presented with the following instructions via computer:

On the piece of paper in front of you, please write about a recent experience in your life that caused you to feel distress or anxiety for someone else. Try to relive the experience and feel that emotion again.

A timer automatically sounded after 5 minutes to alert participants to stop writing. The computer then directed participants to read a brief essay located in a folder on the desk. The purpose of this sequence was to create feelings of distress that would carry-over to the content of the essay that participants read immediately afterward. This emotion-transfer procedure for manipulating emotions has been used in several previous experiments to induce concrete emotions (e.g., Damasio et al., 2000; Gemar, Kapur, Segal, Brown & Houle, 1996; Salovey, 1992). The essay participants read was identical to the one used in Studies 1 and 3 (Sick Jane). The remainder of the procedure was identical for all participants.

Empathic Concern Condition. For participants randomly assigned to the Empathic Concern Condition, the instructions for writing the essay were the same as those described above, except that the phrase, “*distress or anxiety*” was replaced with the phrase “*empathy, sympathy, or compassion.*” Participants in both conditions then completed modified versions of the questionnaires that were used in Study 3. Specifically, participants first completed the ERQ that contained the same empathic concern (Cronbach’s $\alpha = .85$) and distress (Cronbach’s $\alpha = .87$) emotion adjectives used in the previous studies. The instructions on this questionnaire made it clear to participants that they were to report emotions felt for the person depicted in the essay they read, rather than what they experienced while writing their own essay.

Participants then completed an affect grid questionnaire (Russell et al., 1989) in order to assess the valence (Extremely Pleasant to Extremely Unpleasant) and intensity (Extremely High Arousal to Extremely Low Arousal) of their emotional responses to the essay they read. This affect grid assessed their emotional response to the victim essay,

regardless of which emotion-inducing essay they completed earlier in the procedure. Lastly, participant completed a questionnaire that contained three thought items (recurring thoughts in general, about the victim, and about the victim's situation), as well as several filler and demographic items. The three recurring thought items were each rated on a 9-point Likert scale (1 = Not at all; 9 = Very much).

Once the participant completed all of the questionnaires, the research assistant returned and gave participants a form that contained a link to the online follow-up questionnaire, as well as the date and time (48 hours after participation) at which participants were expected to log in to complete the follow-up questionnaire. In order to encourage response rate on the follow-up questionnaire, (a) the online participant recruiting software we use to schedule participants automatically sent a reminder email on the morning that the follow-up questionnaire was to be completed, and (b) the recruiting software did not apply credit for participating in the study until after participants logged in to complete the follow-up questionnaire. As noted above, all but one participant completed the follow-up questionnaire. A full debriefing was conducted online once participants submitted their follow-up questionnaire.

Results and Discussion

Essay-writing manipulation check. Participants assigned to the Distress Condition reported more distress ($M = 3.88$, $SD = 2.16$) than did participants assigned to the Empathic Concern Condition ($M = 2.66$, $SD = 1.80$), $t(48) = 2.17$, $p < .04$. Likewise, participants assigned to the Empathic Concern Condition experienced more empathy ($M = 5.79$, $SD = 2.48$) than did participants assigned to the Distress Condition ($M = 4.75$, $SD = 1.69$), although this effect was not statistically significant, $t(48) = 1.73$, $p = .09$. Thus,

the essay-writing manipulation successfully produced two groups of participants – one with a relatively low level of distress and one with a relatively high level of distress.

Valence and arousal. The results from the affect grid measure suggest no significant differences in reported valence between participants in the Distress Condition ($M = -.40, SD = 1.80$) and Empathic Concern Condition ($M = -.76, SD = 2.11$), or in reported arousal between the two conditions ($M = -.28, SD = 2.07; M = -.08, SD = 1.99$, respectively), both $t_s < .65, p_s > .51$. Consequently, differences in recurring thought across condition cannot be attributed to a simple valence or arousal effect.

Anticipated and experienced recurring thoughts. Participants reported the extent to which they expected to think about the essay they read in general, to think about the person, and to think about the situation described in the essay during the next 48 hours. Participants also completed a follow-up questionnaire 48 hours after exposure to the emotion-inducing stimulus materials. In order to avoid type II error due to having participants answer to the same questions twice, we ran a repeated-measures ANOVA for each thought question (i.e., general vs. person vs. situation). For recurring thoughts in general, the results indicate an effect of condition, $F(1, 48) = 12.31, p < .001$, such that participant in the Distress Condition ($M = 4.02, SD = 2.04$) reported significantly more recurring thoughts at both times than did participants in the Empathic Concern Condition ($M = 2.58, SD = 2.24$). For recurring thoughts about the person, the results indicate an effect of condition, $F(1, 48) = 12.02, p = .001$, such that participants in the Distress Condition ($M = 3.88, SD = 1.83$) reported significantly more recurring thoughts about the person at both times than did participants in the Empathic Concern Condition ($M = 2.40, SD = 1.61$). For recurring thoughts about the situation, the results indicate an effect of

condition, $F(1, 48) = 29.99, p = .001$, such that participants in the Empathic Concern Condition ($M = 2.90, SD = 1.10$) reported significantly more recurring thoughts about the situation at both times than did participants in the Distress condition ($M = 2.64, SD = 1.38$).

In order to more directly test our hypotheses, we also conducted a series of t-tests on the different anticipated and experienced recurring thought measures. The results for anticipated recurring thoughts suggest that participants assigned to the Distress Condition expected to think more about the essay in general ($M = 4.44, SD = 1.80$) than did participants in the Empathic Concern Condition ($M = 2.88, SD = 1.69$), $t(48) = 3.15, p < .003$. Participants in the Distress Condition also anticipated more recurring thoughts about the person ($M = 4.40, SD = 2.14$) than did participants in the Empathic Concern Condition ($M = 2.80, SD = 1.95$), $t(48) = 2.76, p < .008$. There was no statistically-significant difference regarding recurring thoughts about the situation (Distress Condition: $M = 3.56, SD = 2.12$; Empathic Concern Condition: $M = 3.40, SD = 1.74$), $t(48) = .39, p = .77$. Results for experienced recurring thoughts showed that participants assigned to the Distress Condition experienced more recurring thoughts about the essay in general ($M = 3.60, SD = 2.27$) than did participants in the Empathic Concern Condition ($M = 2.28, SD = 1.10$), $t(48) = 2.61, p < .01$. Participants in the Distress Condition also experienced more recurring thoughts about the person ($M = 3.36, SD = 2.16$) than did participants in the Empathic Concern Condition ($M = 2.00, SD = 1.55$), $t(48) = 2.56, p < .02$. In contrast, participants in the Empathic Concern Condition experienced more recurring thoughts about the situation ($M = 2.40, SD = 1.00$) than did participants in the Distress Condition ($M = 1.72, SD = 1.06$), $t(48) = 2.33, p < .02$. These results are

consistent with those reported in Studies 1, 2, and 3, and offer further support for Hypothesis 3 regarding the foci of cognitions associated with empathic concern and distress. See Table 3 for more details.

Additional analyses. Correlational analyses on the recurring thoughts, emotion, and valence/arousal measures yield an interesting pattern. Regarding the emotion indices, the results suggest that distress, controlling for empathic concern, was significantly correlated with anticipated general recurring thoughts [$r(48) = .28, p < .04$], and anticipated recurring thoughts about the person [$r(48) = .29, p < .03$], but not with anticipated recurring thoughts about the situation [$r(48) = -.14, p = .33$]. It was also significantly correlated with experienced recurring thoughts in general [$r(48) = .28, p < .05$], and experienced recurring thoughts about the person [$r(48) = .32, p < .02$], but not with experienced recurring thoughts about the situation [$r(48) = -.25, p = .07$]. Empathic concern, controlling for distress, was significantly correlated only with anticipated recurring thoughts about the situation [$r(48) = .36, p < .02$]. No other correlations with this index were significant [all r s $< .12$].

General Discussion

Taken together, the results of the studies reported above suggest interesting relations among empathic concern, distress, and both anticipated and experienced recurring thoughts. Specifically, using different presentation modalities, need situations, and victims, the results suggest that distress, but not empathic concern, is associated with anticipated (Study 1) and experienced (Studies 1 & 2) recurring thoughts about a victim.

Instead, Study 3 suggests that empathic concern is associated with anticipated recurring thoughts about a victim's situation, whereas distress is associated with anticipated recurring thoughts about the victim *per se*. As noted above, one possible explanation for this different pattern of associations is that the motives associated with each emotion is different, and the focus of an observer's thoughts pertain to those different goals. Although the data presented here do not speak directly to this explanation, we speculate that that empathy is associated with thoughts about helping the person to remedy the situation, whereas distress is associated with thoughts about escaping the victim. To our knowledge, no existing research has examined the relation between empathic concern, distress, and mental content about a victim or the victim's situation (but for a partial examination, see Batson et al., 1988, Study 5). Further research is needed to better understand this important issue.

Study 4 used a true experimental design in order to directly manipulate empathic concern and distress for the source of recurring thoughts. The results are consistent with those reported in Studies 1 through 3. Results from the affect grid in Study 4 suggest that there may be something deeper, and perhaps more interesting, about empathic concern and distress than simple valence or intensity that is causing distinct patterns of recurring thoughts. It is important to note these four studies employed different procedures, modalities, victims, need situations, and methods for assessing recurring thoughts, and yet the results across all four studies yield a consistent and interesting pattern of effects.

Limitations

One important limitation of the current research is that we relied on self-reports for both anticipated and experienced recurring thoughts. It is no simple task to peer into someone's mind in order to directly assess mental content, so self-report is a natural first step. Future research would benefit from using alternative methods for assessing recurring thoughts (e.g., reaction time measures). A second important limitation also contributes to the strength of the current research – the choice of victim. We purposely employed strangers as victims in these studies in order to avoid the effects of familiarity, liking, role-obligations, or other pre-existing attitudes on empathic or distress-related responding (for a review, see Batson, 2011). However, it could be argued that an observer would not be able to so easily separate distress-related and empathic emotional responding, or recurring thoughts, if the victim is a close other rather than a stranger. We agree. But we also contend that utilizing a close other as target in this type of research would likely conflate a number of distinct processes and, importantly, make the relations among distress, empathic concern, and recurring thoughts more difficult to detect. We do not believe employing a close other in such a manner would be fruitful in this line of research.

Lastly, we made no attempt to record or analyze the specific *content* of recurring thoughts (aside from assessing the focus – person vs. situation). What participants in this research were specifically thinking about is not known. However, we would predict that distress causes escape or avoidance thoughts, whereas empathic concern causes thoughts about strategies to remedy the victim's situation. We also would predict that thoughts associated with distress are maladaptive or unpleasant, and would likely cause negative attitudes toward the victim. On the other hand, we would predict that thoughts associated

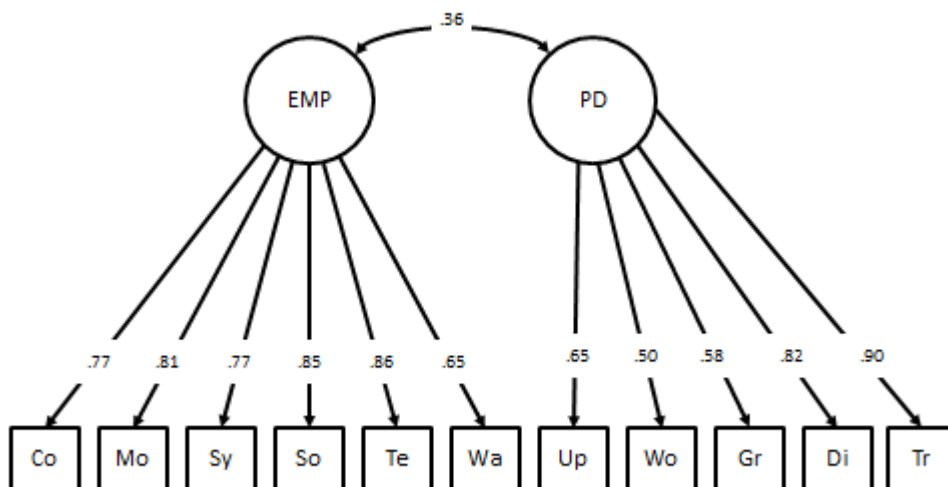
with empathic concern are adaptive and not unpleasant, and would likely cause positive attitudes toward the victim (cf. Batson & Ahmad, 2009; Regan & Totten, 1975). An interesting line of research would involve a close examination of exactly what types of thoughts people have as a consequence of each type of emotion.

Conclusions

Why is exposure to a person in need sometimes so easy to remember and, at other times, so easy to forget? The answer, according to the research reported here, is that it depends on at least two things. First, the type of emotion that the victim elicits matters. Distress is associated with recurring thoughts about the other person, whereas empathic concern is not. Second, the type of recurring thoughts under discussion matters. Empathic concern is associated with recurring thoughts about the other person's situation whereas distress is associated with recurring thoughts about the other person. Importantly, each of these vicarious emotional responses to the suffering of others has distinct motivational and behavioral consequences. Utilizing insight gained from the research reported here may help researchers or those in applied fields to develop strategies to produce the specific constellations of emotion, motivation, and behavior that fit their needs.

Footnotes

1. In order to ensure that empathy and personal distress were two different factors, we conducted a confirmatory factor analysis (CFA) with the samples from the four studies ($n = 233$). AMOS software was used to conduct the CFA using a *Weighted Least Squares Minimum Value* (WLSMV) procedure, as this seems to be the most appropriate for polychoric correlations (Muthén & Muthén, 1998-2012). We determined the fit of the model based on the goodness-of-fit indices (GOF). The GOF indices used in this study were: (a) The Root Mean Square Error of Approximation (RMSEA); (b) the Comparative Fit Index (CFI); and (c) the Tucker-Lewis Index (TLI). RMSEA is considered acceptable at values lower than 0.06 (Hu & Bentler, 1999). CFI and TLI are considered to give evidence of acceptable fit at values over a .90 threshold (Bentler & Bonett, 1980), and excellent fit at .95 (Hu & Bentler, 1999). Results showed an acceptable fit, with an RMSEA of 0.079 ($p(\text{RMSEA} < 0.06) > .05$), CFI = .967, and TLI = .943).



We also tested the fit of a single factor model. This model did not have an acceptable fit (RMSEA = 0.169; CFI = .836; and TLI = .779), and was significantly worse than the 2-factor solution ($\Delta\chi^2 = 90.392$, p -value < .00005). Thus, empathic concern and distress, as measured by the ERQ in the present research, are two separate constructs.

2. There were no gender differences on key dependent variables in any of the four studies (Study 1, $t_s < .14$, $p_s > .88$; Study 2, $t_s < .49$, $p_s > .62$; Study 3, $t_s < 1.22$, $p_s > .23$; Study 4, $t_s < 1.32$, $p_s > .19$), so gender is not included in the reported analyses.
3. This pattern of results for empathic concern and distress is common for victim scenarios in which the suffering is not particularly graphic or shocking (for a review, see Batson, 2011). The same pattern was found in Study 2 [empathic concern $M = 3.99$, $SD = 1.27$; distress $M = 3.48$, $SD = 1.42$, $t(59) = 3.82$, $p < .001$] and in Study 3 [empathic concern $M = 4.30$, $SD = 1.31$; distress $M = 3.42$, $SD = 1.48$, $t(43) = 5.45$, $p < .001$]. In need situations involving graphic or disturbing content (e.g., blood, extreme pain), the distress tends to be stronger than empathic concern (see Hoffman, 2001, for a discussion of empathic over-arousal).

Compliance with Ethical Standards:

Funding: This research was funded by grant PSI2014-53321-P.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: Informed consent was obtained from all individual participants included in the study.

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Table 1

Partial Correlations for Studies 1 and 2

	Recurring Thoughts	
	Anticipated	Experienced
Study 1		
Empathic Concern	.01 (15 mins)	N/A
	.01 (60 mins)	N/A
Distress	.26 (15 mins)	N/A
	.27 (60 mins)	N/A
Study 2		
Empathic Concern	-.05	-.16
Distress	.29	.31

Note: rs in bold are significant at $p < .05$.

Table 2

Partial Correlations for Study 3

Anticipated Recurring Thoughts	
<u>Recurring Thoughts about the Situation</u>	
Empathic Concern	.47
Distress	.03
<u>Recurring Thoughts about the Person</u>	
Empathic Concern	.24
Distress	.44

Note: rs in bold are significant at $p < .05$.

Table 3

Means and Standard Deviations for Study 4

	Condition	
	Empathic Concern	Distress
Empathic Concern	5.79 (2.48)	4.75 (1.69)
Distress	2.66 (1.80)	3.88 (2.16)
Anticipated Thoughts (General)	2.88 (1.69)	4.44 (1.80)
Anticipated Thoughts (Person)	2.80 (1.95)	4.40 (2.14)
Anticipated Thoughts (Situation)	3.40 (1.73)	3.56 (2.12)
Experienced Thoughts (General)	2.28 (1.10)	3.60 (2.27)
Experienced Thoughts (Person)	2.00 (1.55)	3.36 (2.16)
Experienced Thoughts (Situation)	2.40 (1.00)	1.72 (1.06)
Valence	-0.76 (2.11)	-0.40 (1.80)
Arousal	-0.08 (1.99)	-0.28 (2.07)

Note: Numbers in bold in the same row are significantly different at $p < .05$.