Forgiving the September 11th terrorists: Associations with coping, psychological distress, and religiosity

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Abstract

Two studies examined how non-interpersonal forgiveness (when there is no social relationship between the transgressor and forgiver) related to coping and involuntary responses to stress, psychological distress, and religiosity. Three to six weeks after September 11th, 2001, forgiveness had non-linear associations with other responses to the terrorist attacks. Among college students (N=488), those who were trying or had forgiven (pro-forgiveness) the terrorists reported less involuntary engagement, more primary and secondary control coping, and more meaning finding than those who were unsure about forgiveness (ambivalent) and those who did not believe the perpetrators should be forgiven (anti-forgiveness). Ambivalent students reported the most distress, even after controlling for religion. Anti-forgiveness students reported less religiosity than ambivalent and pro-forgiveness students. Most findings were consistent among middle schoolers (N=154), particularly regarding psychological distress and responses to stress. Also, forgiveness of strangers for acts against one's community functioned separately from religion.

Keywords: Forgiveness, coping, stress, terrorism, religion, adolescents

The terrorist attacks on 11 September 2001 (9/11) prompted a variety of coping responses, and caused distress and post-traumatic symptoms across the USA in people of all ages (Blanchard, Rowell, Kuhn, Rogers, & Wittrock, 2005; Galea & Resnick, 2005; Liverant, Hofmann, & Litz, 2004; Schlenker et al., 2002; Schuster et al., 2001; Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002; Wadsworth, Gudmundsen et al., 2004). Forgiveness responses to negative events are increasingly seen as important in understanding outcomes and processes related to such events (e.g., Karremans, Van Lange, & Holland, 2005). These responses do not occur in isolation, however. To better understand forgiveness and how it relates to this broader set of responses, we examined college students’ and adolescents’ perspectives toward forgiving the strangers responsible for this mass violence. Our purpose was to investigate the relation of forgiveness responses to coping, psychological distress, and religiosity.
What is forgiveness?

To forgive, one must have been transgressed against (either directly or indirectly). Thus, forgiveness is one type of response to a negative event (e.g., Pargament & Rye, 1998; Worthington & Scherer, 2004). It is typically defined as: (1) reductions in negative emotions and thoughts of revenge; and (2) increases in prosocial, constructive behavior, and positive emotions (Berry, Worthington, O’Connor, Parrott, & Wade, 2005; Worthington & Wade, 1999). Although coping and forgiveness are both responses to negative events, little research has examined their interrelationship.

Most research has focused on forgiveness of transgressors with whom the victim is in a relationship — that is, on interpersonal forgiveness (Cimbora & McIntosh, 2005). Understanding the correlates of forgiveness requires examining it in different cases, specifically those in which the forgiver does not know the perpetrator and will not develop a relationship with the perpetrator (Exline, Worthington, Hill, & McCullough, 2003). Most people think that one can forgive in such contexts; strangers and people who are deceased, for example, can be forgiven (Mullet, Girard, & Bakhshi, 2004). We refer to these contexts in which the transgressor is a stranger and the forgiver will not repair or even begin a relationship as non-interpersonal. Even if a transgression is taken personally (as, perhaps, a terrorist attack against one’s nation), the forgiveness is non-interpersonal if there is no previous or intended future relationship between the transgressor and the potential forgiver.

In addition to being non-interpersonal, the 9/11 attacks represented a situation in which individuals were faced with forgiveness of transgressions aimed at a nation, rather than specific individuals. It is unclear from previous research whether the associations between forgiveness and positive outcomes in interpersonal settings generalize to non-interpersonal, community-level settings such as 9/11 (Exline et al., 2003). Although there are obvious difficulties with forgiving perpetrators of mass violence (Thomas & Garrod, 2002), some people do so. Within 1 week of the school shootings at Columbine High School in Colorado, Columbine students and parents reported responses ranging from not being able to consider forgiveness, to having already forgiven the perpetrators (Hawkins, McIntosh, Silver, & Holman, 2004).

Forgiveness is a complex construct and recent work has begun to examine its many facets. For example, some have distinguished forgiveness from unforgiveness in interpersonal contexts (i.e., the desire for revenge and/or avoidance of the transgressor; Karremans et al., 2005; Konstam, Holmes, & Levine, 2003; Wade & Worthington, 2003; Zechmeister, Garcia, Romero, & Vas, 2004). The current study focused on forgiveness responses that had not been studied before. Specifically, we compared individuals who were anti-forgiveness (opposed to forgiving the terrorists) with those who were ambivalent (those who seem to be wrestling with their feelings of forgiveness), and with those who were pro-forgiveness (trying, or who had forgiven). From a conceptual standpoint, our anti-forgiveness group differed from an unforgiveness group in that they were only opposed to forgiveness, without necessarily desiring revenge or avoidance of the transgressor.

Forgiveness and responses to stress

Forgiveness occurs in the context of other responses to stress, such as coping. Thus, understanding the role of forgiveness in relation to other responses people have to stressful transgressions will both broaden our understanding of how individuals react to such situations, and will better locate forgiveness research in the larger context of stress and coping research. Because different measures of coping (e.g., Ways of Coping Checklist
assess a number of different tactics, we found it helpful to focus on broad categories of responses rather than specific behaviors when examining the association between forgiveness and responses to stress.

A useful way to categorize the wide variety of responses individuals have to stressful events is provided by Connor-Smith, Compas, Wadsworth, Thomsen, and Saltzman (2000). In their model, coping responses are sorted into primary control coping (e.g., attempts to directly alter one's emotional reactions or to problem-solve), secondary control coping (e.g., cognitive restructuring or positive thinking), and disengagement coping (e.g., avoidance, denial, and wishful thinking). Moreover, individuals vary in their involuntary responses to stress (Compas, Connor, Saltzman, Thomsen, & Wadsworth, 1999). Involuntary engagement includes automatic or over-learned responses that keep one engaged with the stressor, such as intrusive thoughts, physiological arousal, and rumination. Involuntary disengagement includes responses such as emotional numbing and cognitive interference that are generally not enacted purposefully (Connor-Smith et al., 2000). Below, we detail our hypotheses regarding forgiveness and these five categories of responses to stress.

Little research has examined the associations between forgiveness following a specific event and coping. However, previous research has shown that dispositional forgiveness is associated with more use of emotion-focused coping (Konstam et al., 2003), indicating active engagement with feelings and thoughts about the stressor. Because primary control coping includes emotion-regulation and secondary control coping includes positive thinking and cognitive restructuring (Connor-Smith et al., 2000), we predicted that individuals who were in the pro-forgiveness group would show the most primary and secondary control coping, and that those who were anti-forgiveness would show the least.

In contrast to primary and secondary control coping, disengagement coping orients an individual away from the stress or the emotional reactions (Connor-Smith et al., 2000). Because forgiveness requires thinking of the transgressors and acknowledging that a wrong was committed (and thus consideration of the event, its causes and consequences), forgiveness should be incompatible with disengagement (Maltby, Day, & Barber, 2004). Therefore, we predicted that those who were pro-forgiveness toward the 9/11 terrorists would report the least disengagement coping, and those who were anti-forgiveness would report the most.

We also made hypotheses about involuntary responses to stress. As noted above involuntary engagement includes rumination. Because rumination increases thoughts of revenge, ruminating about interpersonal transgressions has been linked to less forgiveness (McCullough, Rachal, Sandage, Worthington, Brown, & Hight, 1998). We sought to replicate the association between rumination and interpersonal forgiveness for non-interpersonal transgressions and predicted that those who were pro-forgiveness would report the least involuntary engagement. Lastly, as with disengagement coping, we predicted that the pro-forgiveness group would show the least involuntary disengagement, and those who were anti-forgiveness would report the most.

Following trauma, many individuals report experiencing growth or finding meaning in the event (Tedeschi & Calhoun, 2004). Such growth may be associated with better post-trauma functioning (Pennebaker & Stone, 2004). Because forgiving may facilitate the cognitive engagement with the event (as described above) required for building new, meaningful understandings of the event (see Tedeschi & Calhoun, 2004), we predicted that those who were pro-forgiveness would report having found the most meaning in the events of 9/11, and those who were anti-forgiveness would report the least.
Forgiveness and distress

The clinical literature often advocates forgiveness as a way to decrease psychological distress (e.g., Enright & Fitzgibbons, 2000), and forgiveness appears linked with less distress. Dispositional forgiveness is associated with lower levels of depression (Brown, 2003), and being more forgiving of interpersonal transgressions is associated with less trait anxiety (Subkoviak, Enright, Wu, & Gassin, 1995). Forgiveness of others is associated with psychological well-being, especially in a committed relationship (Karremans, Van Lange, Ouwerkerk, & Kluwer, 2003). Among adolescents, increasing forgiveness through education appears to decrease psychological distress following divorce (Freedman & Knupp, 2003). Further, participants show more physiological arousal when thinking unforgiving thoughts about an interpersonal transgression than when thinking about forgiving (Witvliet, Ludwig, & Vander Laan, 2001).

Little research has considered how forgiveness relates to psychological adjustment when the transgressor has no interpersonal relationship to the victim. We can draw on literature showing that maladaptive coping responses to 9/11 are linked with later symptoms of anxiety (Liverant et al., 2004), but we do not know how forgiveness per se might be related to psychological distress in the same scenario. Given these and the aforementioned findings, we hypothesized that those who were pro-forgiveness would report the least distress, and those who were anti-forgiveness would report the most.

Forgiveness and religion

Because forgiveness is a virtue in many religions (McCullough & Worthington, 1999; Rye et al., 2000; Spilka, Hood, Hunsberger, & Gorsuch, 2003), religiousness and forgiveness are sometimes seen as related constructs. Indeed, religious individuals often believe that they should forgive (McCullough & Worthington, 1999), and personal religiousness is positively associated with reported tendency to forgive (Gorsuch & Hao, 1993; Konstam et al., 2003). In addition, those who are more religious think more and reason in more sophisticated ways about forgiveness (Enright, Santos, & Al-Mabuk, 1989). However, social indicators of religious involvement (such as frequency of religious service attendance) are negligibly associated with forgiving (McCullough & Worthington, 1999). Thus, the literature suggests that personal religiousness may be positively associated with interpersonal forgiveness, but that socially-motivated religiousness may not be. We therefore hypothesized that individuals who were pro-forgiveness would show the highest levels of personal religiousness and that those who were anti-forgiveness would show the lowest. We did not expect socially-motivated religion to be tied to forgiveness.

We also wished to examine ways in which forgiveness and religiousness are distinct from one another. The positive associations between forgiveness and personal religion (e.g., McCullough & Worthington, 1999; Rye et al., 2000; Spilka et al., 2003) make it possible that any connection between forgiveness and distress is simply an association between religion and distress. Religion is linked with positive mental and physical outcomes following negative life events (McIntosh, Silver, & Wortman, 1993; McIntosh & Spilka, 1990; Pargament, 1997; Pargament et al., 1990). Despite the religion-forgiveness association, religion is not logically necessary for forgiveness, and thus we do not consider forgiveness as a type of religious coping response or merely a marker for higher levels of religion. Given this distinction, we predicted that controlling for religion would not eliminate associations between forgiveness and distress.
The current studies

The present studies aimed to understand how forgiveness of non-interpersonal transgressions relates to responses to stress, psychological distress, and religiosity, in young adults and adolescents. The 9/11 attacks were non-interpersonal transgressions in that the perpetrators were strangers. Because this occurrence was a negative event common and simultaneous to many individuals, we were able to examine forgiveness in two samples, without type or timing of event confounding the differences among individuals or groups. As detailed above, we predicted that forgiving or trying to forgive the 9/11 attackers would be associated with: (1) more positive responses to stress (more primary and secondary control coping, finding more meaning, less involuntary engagement, less disengagement coping); (2) less psychological distress; and (3) higher personal religion.

Because the question of whether religion is related to forgiveness is conceptually distinct from the question of whether religion is a third variable artifically creating the forgiveness – distress association, we evaluate these two hypotheses separately. Religion may increase forgiveness without religion explaining why forgiveness is related to distress. Indeed, this is the pattern we predict; forgiveness and distress will be related even when religion is controlled.

To evaluate the consistency and generalizability of the patterns of findings, we tested in the second study whether these results were observed for a sample of young adolescents (middle schoolers) exposed to the same stressor. We expected the relations of forgiveness with other variables to be the same. In addition, we were able to explore whether there were differences in forgiveness across the samples. We expected that middle schoolers would show less forgiveness for several reasons. Adults appear more likely to forgive (in interpersonal contexts) than do adolescents (Enright et al., 1989; Mullet & Girard, 2000), college students may be less forgiving than their parents (Subkoviak et al., 1995) and, in an adult sample, age was correlated positively with more forgiveness (Konstam et al., 2003). In addition, because coping responses to stress vary developmentally in general (Band & Weisz, 1988, 1990; Compas, 1998; Hoffman, Levy-Shiff, Sohberg, & Zarizki, 1991; Losoya, Eisenberg, & Fabes, 1998) and to the 9/11 attacks in particular (Wadsworth, Gudmundsen et al., 2004), we consider the relevance of sample differences to developmental models of coping.

STUDY 1: UNDERGRADUATE SAMPLE

Method

Participants

Participants were students from a private (n = 291) and a state university (n = 201) in the western USA. Of the 493 who completed surveys, five were missing forgiveness data and were therefore excluded from analyses, leaving a final sample of 488. The two college groups did not differ significantly on forgiveness, $\chi^2(2, N = 488) = 5.38, p > .10$. The sample was largely young adult; ages ranged from 17 to 58 ($M = 20.84, SD = 4.63$). Most (346, 71.9%) were female. The sample was 79.6% White, 3.1% African American, 4.1% Southeast Asian/Pacific Islander, 0.6% Native American, 6.5% Hispanic, and 6.1% of the sample reported another ethnicity or skipped the question. Based on open-ended self reports, their religious affiliation was: 62.2% Christian, 4.7% Jewish, and 11.2% “Other.” Many (21.9%) either left this item blank or reported that they were not part of any religious or spiritual group (e.g., “None”).
Procedure

Investigators distributed 670 questionnaires to interested students in social science classes during the third through sixth weeks after 9/11. Respondents returned questionnaires to confidential drop boxes and received extra class credit for participation. All questionnaires had been returned by 24 October 2001; the median return date was 9 October. The participation rate was 74%.

Measures

Forgiveness. Using the quantitative forgiveness measure from Hawkins et al. (2004), respondents indicated which of five statements best reflected their current feelings regarding forgiveness of those responsible for the attack of 9/11. Three categories of forgiveness were created from the five statements based on item content. Participants who marked “I do not think the perpetrators should be forgiven, and I do not intend to try” formed the anti-forgiveness group. Individuals who marked “Even if the perpetrators should be forgiven, I cannot imagine doing so” or “I cannot think of forgiveness now; perhaps later” formed the ambivalent group. Those who indicated “Although I cannot say I have forgiven the perpetrators, I am trying” or “I have forgiven the perpetrators” comprised the pro-forgiveness group. Supporting this face-valid criterion for the combination of responses, there were no significant differences on any outcome measures between the two responses in the ambivalent group nor between the two responses in the pro-forgiveness group. See Table I for the distribution of the sample by forgiveness group.

Responses to stress. Participants completed the 57-item Responses to Stress Questionnaire (RSQ), which assesses how a person responds to a stressful domain (here, the 9/11 attacks; Connor-Smith et al., 2000). We used this measure because it is developmentally appropriate for both young adults and adolescents (Wadsworth, Gudmundsen et al., 2004). Coping (voluntary, effortful responses) is organized into three categories: primary control coping (9 items), secondary control coping (12 items), and disengagement coping (9 items). Two types of involuntary responses to stress are also assessed: engagement (15 items) and disengagement (12 items). Primary control coping consists of tactics used to directly alter a stressor or one’s emotional reactions, and comprises problem solving, emotional expression, and emotional regulation. Secondary control coping reflects attempts to adapt oneself to a stressful situation, and comprises positive thinking, cognitive restructuring, acceptance, and distraction. Disengagement coping includes efforts to orient away from a stressor or one’s reactions, and comprises avoidance, denial, and wishful thinking. Involuntary engagement contains automatic or over-learned responses that keep one engaged with the stressor or one’s reactions, and comprises emotional arousal, impulsive action, intrusive thoughts, physiological arousal, and rumination. Involuntary disengagement includes automatic responses that orient the individual away from the stressor or one’s reactions, and comprises cognitive interference, emotional numbing,

<table>
<thead>
<tr>
<th></th>
<th>Anti-forgiveness</th>
<th>Ambivalent</th>
<th>Pro-forgiveness</th>
<th>Totals</th>
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</thead>
<tbody>
<tr>
<td>College sample (Study 1)</td>
<td>221 (45.3%)</td>
<td>153 (31.4%)</td>
<td>114 (23.4%)</td>
<td>488</td>
</tr>
<tr>
<td>Middle school sample (Study 2)</td>
<td>86 (55.8%)</td>
<td>48 (31.2%)</td>
<td>20 (13.0%)</td>
<td>154</td>
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</table>
escaping, and inaction. Construct and criterion validity, as well as test-retest reliability have been demonstrated in multiple samples, including samples of children and adults in poverty, college students, children with recurrent abdominal pain, and Native American teens (Connor-Smith et al., 2000; Wadsworth, Rieckmann, Benson, & Compas, 2004). Internal consistencies in this sample were: \( \alpha \) (primary control) = .76, \( \alpha \) (secondary control) = .69, \( \alpha \) (disengagement coping) = .70, \( \alpha \) (involuntary engagement) = .86, \( \alpha \) (involuntary disengagement) = .77. As recommended by the authors, subscale scores were computed as proportions of the total score for all responses (e.g., proportionally the amount of problem solving the individual reported using compared with the amount of coping he or she reported overall) to control for overall responding biases. Proportional scores are often recommended for use when examining coping responses because of the tendency of individuals to report using either many coping responses of all types or very few responses overall. When scales are computed as proportion scores, greater specificity in associations among variables is achieved (Wadsworth, Gudmundsen et al., 2004).

**Meaning.** Respondents answered the question, “Have you been able to find meaning in [the attacks]?” on a five-point scale ranging from (1) “No, never” to (5) “Yes, all the time.” This item was a modified version of an item used by McIntosh et al. (1993) who found it was positively related to psychological well-being and negatively related to distress among parents who had lost a child to sudden infant death syndrome.

**Psychological distress.** We used three indices of psychological distress: symptoms of depression, anxiety, and post-traumatic stress disorder. The 21-item self-report Beck Depression Inventory (BDI; Beck, Steer, & Garbin, 1988) was used to assess symptoms of depression. Items are rated on a four-point scale, from 0 (no symptomatology) to 3 (severe symptomatology). Items are summed to create a total depression index. The BDI is a widely used instrument that demonstrates good reliability and validity (Beck et al., 1988). The internal consistency for the BDI was .90.

Anxiety was measured using the State subscale of the State-Trait Anxiety Inventory (STAI; Spielberger, 1983). Respondents rated the degree to which they felt a list of 20 anxiety-related emotions on four-point scales ranging from “not at all” to “very much so.” The internal consistency for the STAI was .92.

The adolescent version of the UCLA Reaction Index (UCLA; Pynoos et al., 1987; Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998) was used as a measure of post-traumatic stress (PTS) symptomatology with regard to the events of 9/11. For each of the 22 items, respondents rate how frequently they have experienced the symptom, ranging from “never happens” to “anywhere from four to seven times per week.” We used the most sensitive scoring algorithm provided by the measures’ authors in which the score is based on the number of items endorsed with frequency greater than “never happens.” The internal consistency was .86.

**Religion.** We used a six-item modified version of the Religious Orientation Scale (ROS; Gorsuch & McPherson, 1989; Hill, 1999) to assess personal religion (a combination of the two Intrinsic items, e.g., “My whole approach to life is shaped by my religious or spiritual beliefs,” and two Extrinsic-Personal items, e.g., “Prayer/meditation is for peace and happiness,” that factored together; \( \alpha = .81 \)) and socially-motivated religion (two Extrinsic-Social items, e.g., “I attend services/meetings of my religious organization mainly to spend time with my friends”; \( \alpha = .82 \)). Previous investigators, also based on factor analyses, also
combined the Intrinsic and Extrinsic-Personal scales as a measure of personal religion (e.g., Gorsuch & Hao, 1993). This construct contrasts with mere conformity to institutional religion and with use of religion for social gain. Each item was rated on a five-point scale from (1) Strongly Disagree to (5) Strongly Agree.

Study 1 results

Preliminary analyses

No outliers were identified and the data were normally distributed. We examined intercorrelations among the dependent variables to determine whether each could be tested in separate analyses, and whether the responses to stress considered positive were, as expected, inversely related to psychological distress. The measures of psychological distress (anxiety, depression, and PTS symptomatology) were highly correlated ($r$s ranged from .67 to .68), indicating significant shared variance among the measures. Therefore, we created a distress composite score by standardizing and averaging participants’ scores on each of the three measures.

The correlations among the variables in this sample are displayed above the diagonal in Table II. Consistent with previous work, primary control coping, secondary control coping, and meaning were negatively related to psychological distress, whereas involuntary engagement was positively associated with distress. However, disengagement (voluntary or involuntary) was not significantly associated with distress.

Additionally, we tested whether the forgiveness groups differed significantly in terms of age (see Konstam et al., 2003) to know whether we needed to control for age in the hypothesis tests. There were no significant differences ($p > .10$) and thus we do not control for age.

Hypothesis tests

We used one-way analyses of variance (ANOVA) to compare the three forgiveness groups on religion, responses to stress, and psychological distress. For the pairwise comparisons that followed significant ANOVAs, we controlled for alpha inflation by using a Tukey-Kramer correction. See Table III for means, standard deviations, $F$-statistics, and effect sizes for all results presented below.

Table II. Correlations among constructs for Study 1 (college students) and Study 2 (middle school students).

<table>
<thead>
<tr>
<th>Construct</th>
<th>1</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Personal religion</td>
<td>.33*</td>
<td>.09*</td>
<td>.14*</td>
<td>.00</td>
<td>.06</td>
<td>.07</td>
<td>-.21*</td>
<td>.11*</td>
<td></td>
</tr>
<tr>
<td>2 Socially-motivated religion</td>
<td>.12</td>
<td>-.11</td>
<td>-.02</td>
<td>-.03</td>
<td>.06</td>
<td>.01</td>
<td>-.03</td>
<td>.01</td>
<td>.06</td>
</tr>
<tr>
<td>3 Finding meaning</td>
<td>.07</td>
<td>.15*</td>
<td>.00</td>
<td>.14*</td>
<td>-.15*</td>
<td>-.06</td>
<td>-.15*</td>
<td>-.14*</td>
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<tr>
<td>4 Primary control coping</td>
<td>.21*</td>
<td>.22*</td>
<td>.00</td>
<td>-.04</td>
<td>-.58*</td>
<td>-.07*</td>
<td>-.50*</td>
<td>-.20*</td>
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<td>5 Secondary control coping</td>
<td>-.10</td>
<td>.05</td>
<td>-.01</td>
<td>.00</td>
<td>-.07</td>
<td>-.61*</td>
<td>-.44*</td>
<td>-.50*</td>
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<td>6 Disengagement coping</td>
<td>-.17*</td>
<td>.14</td>
<td>-.07</td>
<td>-.48*</td>
<td>-.25*</td>
<td>-.32*</td>
<td>.21*</td>
<td>.05</td>
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<tr>
<td>7 Involuntary engagement</td>
<td>.11</td>
<td>-.16</td>
<td>-.06</td>
<td>-.18*</td>
<td>-.65*</td>
<td>-.19*</td>
<td>-.21*</td>
<td>.10</td>
<td></td>
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<tr>
<td>8 Involuntary disengagement</td>
<td>.11</td>
<td>.12</td>
<td>-.09</td>
<td>-.54*</td>
<td>-.43*</td>
<td>.27*</td>
<td>.10</td>
<td>.27*</td>
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<tr>
<td>9 Distress composite</td>
<td>.07</td>
<td>.17</td>
<td>.01</td>
<td>-.16</td>
<td>-.39*</td>
<td>.15</td>
<td>.35*</td>
<td>.25*</td>
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</table>
Responses to stress. The ANOVA indicated significant differences across forgiveness groups in responses to the stress of the 9/11 attacks for three of the five subscales of the RSQ. Post-hoc analyses revealed that the pro-forgiveness group used more primary and secondary control strategies and experienced less involuntary engagement than did both the ambivalent and anti-forgiveness groups. There were no differences for disengagement coping or involuntary disengagement.

Meaning. The ANOVA indicated a significant main effect for forgiveness type with regard to the ability to find meaning. Post-hoc analyses revealed that the pro-forgiveness group reported being more able to find meaning than the ambivalent and anti-forgiveness groups.

Psychological distress. The ANOVA indicated that forgiveness groups differed significantly on psychological distress. Post hoc analyses revealed that the ambivalent group reported higher distress than did the pro-forgiveness group; the pro and anti-forgiveness groups did not differ significantly from each other.

To evaluate whether forgiveness was associated with psychological distress because of its association with religiosity, we conducted the main analysis above with personal religion as a covariate. The inclusion of personal religion as a covariate did not change any results,
which is consistent with our prediction that the association between forgiveness group and distress is not due to overlap between religiosity and forgiveness.

Religion. ANOVAs revealed significant differences in personal religion and socially-motivated religion among the forgiveness groups. Post-hoc analyses revealed that the anti-forgiveness group had lower scores on both personal religion and socially-motivated religion than did the ambivalent and pro-forgiveness groups. The effect sizes for group differences on personal religion are much larger than those for socially-motivated religion.

Study 1 Discussion

We examined how attitudes toward forgiveness of the 9/11 attackers (anti, ambivalent, or pro-forgiveness) related to coping and responses to stress, psychological distress, and religiosity in a sample of college students. Although the findings were generally consistent with hypotheses (forgiveness was related to coping and responses to stress, psychological distress and personal religion), the pattern of findings suggests a more complex story than a simple, monotonic association of variables with forgiveness. Interestingly, the patterns of association varied across responses to stress, psychological distress, and religion.

Responses to stress. Regarding responses to stress, the pro-forgiveness group reported the most positive responses (meaning finding and primary and secondary control coping) and the least involuntary engagement. There were no differences between the anti-forgiveness and ambivalence groups in responses to stress. Thus, individuals who are clear that they want to, or have already forgiven non-interpersonal transgressors appear to show responses to stress associated with positive outcomes (Connor-Smith et al., 2000).

Psychological distress. Different from our predictions that those in the anti-forgiveness group would show the highest psychological distress, the ambivalent group showed the highest levels. It may be that the struggle that is part of ambivalence generates distress, that greater distress makes forgiveness more difficult, or that some other factor causes both high distress and forgiveness ambivalence. The association between forgiveness and distress is unlikely to be directly explained by responses to stress, for we see different patterns here. Whereas the pro-forgiveness group differs from the others by using the most adaptive coping, it is the ambivalent group that differs from the others by reporting the highest distress.

Religion. As predicted, personal religion was associated with forgiveness. Although we did not predict that socially-motivated religion would be associated with forgiveness, it was. However, the effect size was much larger for personal religion, supporting our hypothesis and previous findings that personal religion is the aspect of religion that is most tied to forgiveness.

The anti-forgiveness group reported significantly less personal religion and socially-motivated religion than both the ambivalent and pro-forgiveness groups; moreover, the ambivalent and pro-forgiveness groups did not differ. Religion may make it difficult for individuals to be anti-forgiveness. At the same time, the absence of a difference between the ambivalent and pro-forgiveness groups suggests that religiousness does not guarantee that forgiveness will be granted. Alternatively, individuals who are less favorable toward forgiveness may tend to avoid religious organizations, which endorse forgiveness.
STUDY 2: MIDDLE SCHOOLERS

Study 2 Method

Participants

Participants were sixth, seventh, and eighth graders at a suburban middle school in the western USA. Of the 168 who completed surveys, 14 were missing forgiveness data and were therefore excluded from analyses, leaving a final sample of 154. Ages ranged from 11 to 14 years (M = 12.20, SD = .98); 66 (43.1%) were male and 87 (56.9%) were female. Respondents were 74.7% White, .6% African American, 5.2% Southeast Asian, 2.6% Native American, 2.6% Hispanic, and 14.2% of the sample reported another ethnicity or skipped the question. Religious affiliation was: 50.0% Christian, 15.6% Jewish, and 3.2% “Other”; 31.8% left the item blank or reported that they were not part of any religious or spiritual group (e.g., “None”). Only 2.6% of children enrolled in this school receive free or reduced lunch, indicating that this is an affluent sample.

Procedure

School administrators selected 300 students to target for participation by identifying social studies teachers who would allow students to complete questionnaires during classes. Students’ parents were contacted through fliers and consent forms sent home with the students. Students with returned signed parental consent forms completed questionnaires during classes 6 weeks after 9/11. They were given a movie pass for participation. The participation rate was 56%.

Measures

For the most part, Study 2 measures were the same as those in Study 1. The forgiveness, responses to stress, meaning, and PTS symptomatology, and religion measures used in Study 1 were used here. The RSQ internal consistencies were: α (primary control) = .82, α (secondary control) = .76, α (disengagement coping) = .76, α (involuntary engagement) = .90, α (involuntary disengagement) = .80. Internal consistency for the religion scales was good (personal α = .78; socially-motivated α = .81). The internal consistency for the UCLA PTS measure was .89. Because valid measures of psychological distress sometimes differ for young adolescent and older adolescent/adult samples, we used different measures of depression and anxiety symptomatology.

Participants completed the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1987) as a measure of depression symptomatology. The 30-item self-report RADS assesses symptoms of depression among adolescents aged 13–18 years. Participants rate on a four-point scale how often they experience each symptom, from “almost never” to “most of the time.” Scores range from 30 to 120. The RADS demonstrates adequate convergent validity and low negative correlations with measures of social desirability and grade point average, suggesting adequate discriminant validity (Reynolds, 1987). Its internal consistency was .92.

Anxiety symptomatology was measured using the State subscale of the State-Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973). Middle schoolers indicated how strongly they currently felt a list of 20 anxiety-related items (e.g., “I feel ... (1) very calm, (2) calm, or (3) not calm.”). The STAIC has high reliability and validity (Spielberger, 1973). Here, the internal consistency was .90.
Study 2 Results

Preliminary analyses

No outliers were identified and the data were normally distributed. We examined the intercorrelations among the dependent variables to determine whether each could be tested in separate analyses. These correlations are below the diagonal in Table II. As in Study 1, the psychological distress measures (anxiety, depression, and PTS symptomatology) were highly correlated ($r$s ranged from .59 to .64), therefore we created a distress composite score as before. Commensurate with results from Study 1, there were no significant differences in age between the three forgiveness groups, so we did not control for age in our analyses.

Developmental differences in forgiveness. We tested whether there were differences between the college and middle school students in the distribution into forgiveness groups (anti-forgiveness, ambivalent, or pro-forgiveness; see Table I). A 3 (forgiveness group) $\times$ 2 (sample) chi-square indicated that there were differences between the two samples in patterns of forgiveness, $\chi^2(2, N=639) = 8.07, p < .05$. To determine where the differences occurred, three pair-wise, 2 (forgiveness type) $\times$ 2 (sample), chi-squares were conducted. These tests indicated there was a higher proportion of individuals in the anti-forgiveness group compared to the pro-forgiveness group in the middle school sample than in the college sample, $\chi^2(1, N=438) = 8.06, p < .01$.

Hypothesis tests

For the hypothesis tests, we compared the three forgiveness groups on measures of responses to stress, psychological distress, and religiosity. Because we were testing for replication of the Study 1 findings, all hypotheses were directional, so we used one-tailed $t$ tests to examine whether the pattern of results in the college sample held in the middle school sample. In addition, due to the differences in sample size, we compared effect sizes across samples. Especially when sample sizes differ, consideration of effect size is key in replication studies; differences in power may mean the same effect is significant in one case, but not the other even though the actual effect is real and consistent (also see Loftus, 1996; Rosnow & Rosenthal, 1989). See Table IV for means, standard deviations, significance levels of the planned comparisons, and effect sizes for Study 2.

Responses to stress. Based on Study 1, we expected the pro-forgiveness group to report a higher proportion of primary and secondary control coping and a lower proportion of involuntary engagement responses than both the ambivalent and anti-forgiveness groups. This pattern was partially replicated. There were no differences among groups on primary control coping, but the pro-forgiveness group did report a higher proportion of secondary control coping than the anti-forgiveness group ($t(103) = 2.38, p < .01$), and there was a trend toward the pro-forgiveness group reporting a higher proportion of secondary control coping than the ambivalent group ($t(65) = 1.55, p = .06$; Cohen’s $d = .42$). In addition, as expected from Study 1, the pro-forgiveness group reported a lower proportion of involuntary engagement responses than the anti-forgiveness group ($t(104) = 1.70, p < .05$).

Meaning. There were no differences among the three forgiveness groups in terms of the ability to find meaning in the 9/11 attacks; the Study 1 pattern was not replicated.
As expected based on Study 1, the ambivalent group reported higher psychological distress than the anti- (t(107) = 1.80, p < .05) and pro-forgiveness groups (t(48) = 1.92, p < .05). The middle school sample thus replicated the college sample, and the effects here were stronger (when measured with Cohen’s d) than in the college sample.

Religion. Based on Study 1, we expected the anti-forgiveness group to report less socially-motivated religion than the ambivalent and pro-forgiveness groups. The difference between the anti- and pro-forgiveness groups approached significance (t(94) = 1.59, p = .06) with an effect size (Cohen’s d) of .42; there was no difference between the anti-forgiveness and ambivalent groups. Based on Study 1, we also expected differences across forgiveness groups on personal religion. There were none. Moreover, effect sizes in this sample for the personal religion scale were notably weaker than those in Study 1 and typically below the cut-off for small effect sizes (Cohen, 1992); the pattern for personal religion was not replicated.

General Discussion

Based on the interpersonal forgiveness literature, we hypothesized that there would be differences in responses to stress, psychological distress, and religiosity related to the degree to which participants had forgiven the 9/11 attackers. We expected the pro-forgiveness group to report greater use of positive coping strategies, less psychological distress, and higher personal religion, than the anti-forgiveness group, with the means for the ambivalent group falling in between. With the exception of psychological distress, the results generally followed this configuration; more forgiveness was associated with more positive responses to...
stress and higher levels of personal religiousness. For psychological distress, however, those who were ambivalent reported the highest levels. Although middle schoolers were more likely to be in the anti-forgiveness group than were college students, the patterns of association between forgiveness, responses to stress, and distress generally held up across the samples.

In discussing the findings and their implications, we consider both the patterns that were similar across the two groups, and potential reasons for differences. Similarity across samples suggests that the outcomes are not idiosyncratic to a developmental level or particular sample; sample differences may be due to developmental differences, other unaccounted differences across samples, or inconsistent associations with forgiveness.

**Forgiveness and responses to stress**

In both samples the pro-forgiveness group reported more secondary control coping and less involuntary engagement. Trying to, or being able to forgive strangers may promote, or be a result of, adjusting oneself to the stressful situation. Forgiveness may be part of a package of responses that facilitates emotional adjustment to the event when one does not expect future interaction with the perpetrators. Consistent with this is the relation of pro-forgiveness to less involuntary engagement; forgiveness may allow, or be part of an emotional or cognitive resolution of the event. These findings are in line with recent research indicating that forgiveness in interpersonal situations is linked with emotion-focused coping (Konstam et al., 2003; Worthington & Scherer, 2004). Our findings extend this research by indicating that coping is linked with forgiveness in a non-interpersonal arena. Contrary to predictions and earlier research on interpersonal forgiveness (i.e., Maltby et al., 2004), disengagement coping and involuntary disengagement were independent of forgiveness group. This suggests that within each group, people can vary on how engaged they remain with the stressor. Forms of engagement different from forgiveness, such as seeking justice, vengeance, or causal understanding, could also occur in anti-forgiveness and ambivalent groups. Future research might explore whether relationships between forgiveness and disengagement vary as a function of whether the stressor is interpersonal or non-interpersonal, and whether the quality of engagement differs across groups.

There were also sample differences regarding responses to stress. The effect sizes for the differences across forgiveness groups were larger in the middle school than in the college sample for secondary control coping. However, whereas there were significant differences between pro-forgiveness and anti-forgiveness on primary control coping and meaning in the college sample, these differences were not apparent among middle schoolers. Secondary control coping (e.g., cognitive restructuring, acceptance) may be more relevant to forgiveness in non-interpersonal situations than is primary control coping (e.g., problem-solving, emotion regulation), especially for younger adolescents. Further, primary control coping may be used differently by the two age groups. For example, college students may seek social support to help them think through the event, whereas middle schoolers may seek support more for reassurance. With regard to finding meaning, perhaps it is more difficult for younger adolescents to do than it is for college students. Finding meaning in negative events may be an abstract concept with which middle schoolers are not yet facile. In fact, finding meaning could be a type of cognitive restructuring, and cognitive restructuring typically doesn’t develop until later in adolescence (Losoya et al., 1998). Additionally, it could be the interpretations of the meaning of the attacks differed across samples. Future research on developmental differences might measure interpretations to determine whether stressors are perceived similarly at different ages.
Forgiveness and psychological distress

Those who were ambivalent about forgiveness reported the highest levels of psychological distress in both studies. Why is there this association? Because distress and responses to stress showed differing patterns of association with forgiveness, it is unlikely that the distress - forgiveness association is caused by the responses to stress measured here. It could be that distress makes it difficult to attempt to, or actually forgive perpetrators; however, if distress makes forgiveness more difficult, it is hard to explain why it would also make being anti-forgiveness more difficult. Being ambivalent about forgiveness may be associated with spending more time thinking about and reacting emotionally to the attacks. It may be that those who had either decided not to try to forgive, or who had already forgiven the attackers were experiencing less psychological turmoil than those who had mixed feelings about forgiveness. Those in the anti-forgiveness group also may have employed effective strategies for reducing distress that were unrelated to forgiveness, or to our measures of coping. Alternatively, those who were more psychologically distressed before 9/11 may be the same individuals who found it difficult to decide whether the attackers should be forgiven. Longitudinal data with pre-event measures are necessary to discern whether ambivalence leads to psychological distress or the reverse.

Forgiveness and religion

Regarding religion and forgiveness, the strongest associations were in the college sample. Among these young adults, low levels of personal religion were associated with being anti-forgiveness, as were low levels of socially-motivated religion, though with smaller differences among the groups. Contrary to predictions, it was socially-motivated religion that was consistently associated with forgiveness across samples. Development may account for personal religion being more powerful for young adults and socially-motivated religion being more powerful for young adolescents. For middle-schoolers, internalized personal religion may be a less powerful indicator of religiousness compared with more concrete behaviors of religious participation. Personal religion may require advanced abstract thinking about one's thoughts and thought processes (metacognition) that typically develops in older adolescence.

With these sample differences in mind, the general finding that the anti-forgiveness groups in both samples reported less religion than other groups suggests that religion may prevent people from rejecting forgiveness, even for perpetrators of mass violence. However, at least for a national terrorist attack, it does not assure a pro-forgiveness stance. This pattern suggests that religion may encourage individuals to value forgiveness, but that it does not necessarily enable them to forgive. Alternatively, individual differences in dispositional or valuing of forgiveness may alter religious behavior or belief. Given the explicit valuing of forgiveness in religious institutions, a person who does not value forgiveness may avoid or move away from religion. Longitudinal, especially developmental, studies would help clarify this pattern.

The association between religion and forgiveness has raised the question of whether forgiveness is simply a proxy measure for religion. Our findings suggest it is not. Religion was not associated with forgiveness with the same pattern that distress or responses to stress were, and the relation between forgiveness and distress was not driven by religion.
Conclusions and implications

The pattern of findings suggests that forgiveness of non-interpersonal transgressors should not be thought of as a linear construct in which being opposed to forgiveness is on one end of a continuum with ambivalence in the middle and being willing to forgive at the opposite end. This conclusion is similar to notion that in interpersonal situations, unforgiveness (i.e., desire for revenge and/or avoidance of the transgressor) and forgiveness should be considered separate, but related concepts (e.g., Konstam et al., 2003; Wade & Worthington, 2003; Worthington & Wade, 1999). Perhaps in relation to community-level transgressions, the concepts of unforgiveness and forgiveness could be adjusted to include a wider range of attitudes toward or experiences of forgiveness. The findings here suggest that some individuals might not consider forgiveness at all (perhaps an expression of indifference), while others are actively engaged in thinking about whether to forgive or not, and still others have already forgiven. Thus, in future research on forgiveness, it might be important to incorporate information from the social psychology literature on attitudinal ambivalence (e.g., Armitage & Conner, 2000; Sparks, Harris, & Lockwood, 2004).

The observed non-linear pattern also raises questions about the development of a pro-forgiveness attitude following an offense such as 9/11. It suggests that a stage-model of forgiveness would be inadequate. People may be motivated to move away from ambivalence, but not necessarily toward forgiveness. Some have asked whether promoting interpersonal forgiveness is useful (e.g., Lamb & Murphy, 2002); our data raise a similar question for non-interpersonal forgiveness. It may not decrease distress for individuals to change from an anti-forgiveness view and work toward a pro-forgiveness attitude following a non-interpersonal transgression. Future work on the value of forgiveness should consider such non-linear associations and ambivalence about forgiveness.

Limitations and future directions

To our knowledge, this study was the first to examine ambivalence about forgiveness and one of the few to examine forgiveness in response to a non-interpersonal, community-level transgression (see also Reed & Aquino, 2003). It examined forgiveness in relation to a single and uniform stressor that occurred at the same time for all participants. Further, with the use of two samples (one college and one middle school) it highlights important developmental questions about forgiveness. With these strengths in mind, there are several limitations to the study and areas where future research is warranted. First, analyses were cross-sectional, and thus causal inferences cannot be made. Important questions for longitudinal work include determining if anti-forgiveness is the result or cause of low levels of personal religion, whether changes in forgiveness occur before or after changes in distress, and whether forgiveness near the time of the event predicts later outcomes. Second, in the middle school sample, statistical power was low. For this sample, our main analyses compared the three forgiveness groups using a priori t-tests. This sample was too small to find significant differences for medium effect sizes between forgiveness groups. A larger sample of middle school students would have provided more statistical power to detect differences, and thus make inferences about effects of development more compelling. As it is, our data suggest that forgiveness may differ with development, and thus we concur with Zechmeister and Romero (2002) that more work on developmental aspects of forgiveness is important. Third, the categorical measure of forgiveness used in this study was novel and demonstrated important associations with coping, distress, and religion. The ability to examine forgiveness categorically is important; however, this item was limited in
that it has not been compared to previously developed measures of forgiveness, nor has its association with variables such as social desirability or other attitudes been assessed. Fourth, because we used a sample of college students and a sample of middle school students who were primarily white, it is difficult to assess how generalizable our findings might be to other groups and older individuals.

Because our study finds that forgiveness is associated with coping and distress in non-interpersonal contexts, future work should explore further the nature of forgiveness when the transgressor is a stranger. In addition, further exploration of forgiveness when harm done is indirect and aimed at the community, rather than the individual, is warranted. A stranger hurting you, specifically, may differ from a stranger hurting your community. Future research might examine different categories of offenses, such as: (1) direct interpersonal transgressions caused by friends, spouses, other family members (i.e., affairs); (2) direct transgressions by strangers (i.e., muggings, robberies); and (3) more indirect human-caused transgressions, such as terrorist attacks or other forms of mass violence or destruction. Forgiveness may relate to outcomes in different ways under these different circumstances (Cimbora & McIntosh, 2005).

Last, the absence of differences between ambivalence and pro-forgiveness on religion, ambivalence and anti-forgiveness for coping responses, and between anti- and pro-forgiveness for distress cannot establish that there are no differences. Larger samples may reveal differences in these groups. However, our data indicate that pro and anti-forgiveness are not opposites, at least in the power of effects. This is especially interesting, as different categories of variables more strongly associate with the pro- or the anti-forgiveness views. Future research should examine potential curvilinear relations of forgiveness with other variables, and consider the notion that some variables may predict resistance to forgiveness, others better predict favorability, and yet others predict ambivalence. There remains much to learn about the not-so-simple act of forgiveness.

Notes

We appreciate the cooperation of administrators and teachers at the middle school in facilitating data collection at that site. We also appreciate the assistance of undergraduate volunteers in the completion of this project.

1 In a gender × forgiveness group chi square, men were more likely to be in the anti-forgiveness group than were women, $\chi^2(2, \text{df}=487)=20.42$, $p<.0005$. Therefore we tested each analysis in two ways, with only forgiveness category as a factor and with both forgiveness and gender as factors. There were no significant forgiveness category by gender interactions. Because the relationship between forgiveness category and the dependent variables did not differ for males and females, for the sake of parsimony, we present analyses here collapsing across gender.

2 As with Study 1, a gender × forgiveness group chi-square indicated that that men were more likely to be in the anti-forgiveness group than were women, $\chi^2(2, \text{df}=153)=10.70$, $p<.01$. Therefore, we again tested each analysis in two ways, with only forgiveness category as a factor and with both forgiveness and gender as factors. There were no significant forgiveness category × gender interactions, indicating that the relationship between forgiveness category and the dependent variables did not differ for men and women. As before, we present analyses here collapsing across gender.

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