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Michael E. McCullough, C. Garth Bellah, Shelley Dean Kilpatrick and Judith L. Johnson

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# Vengefulness: Relationships With Forgiveness, Rumination, Well-Being, and the Big Five

**Michael E. McCullough**

*Southern Methodist University*

**C. Garth Bellah**

*Louisiana Tech University*

**Shelley Dean Kilpatrick**

*National Institute for Healthcare Research*

**Judith L. Johnson**

*Christopher Newport University*

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*Because forgiveness theory has tended to neglect the role of dispositional factors, the authors present novel theorizing about the nature of vengefulness (the disposition to seek revenge following interpersonal offenses) and its relationship to forgiveness and other variables. In Study 1, vengefulness was correlated cross-sectionally with (a) less forgiving, (b) greater rumination about the offense, (c) higher negative affectivity, and (d) lower life satisfaction. Vengefulness at baseline was negatively related to change in forgiving throughout an 8-week follow-up. In Study 2, vengefulness was negatively associated with Agreeableness and positively associated with Neuroticism. Measures of the Big Five personality factors explained 30% of the variance in vengefulness.*

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**F**orgiving is a complex of motivational changes that occurs in the aftermath of a significant interpersonal offense. When an offended person forgives, his or her basic motivations to (a) seek revenge and (b) avoid contact with the offender are lessened, and other relationship-constructive motivations (such as the motivation to resume a positive relationship) are restored. These motivational changes occur even though in most cases the victim continues to appraise the harmful actions of the offender as having been unjust (McCullough et al., 1998; McCullough, Worthington, & Rachal, 1997).

Although most empirical research on forgiveness has been of an applied nature (e.g., Coyle & Enright, 1997; Freedman & Enright, 1996; Hebl & Enright, 1993; McCullough & Worthington, 1995) or has explored the

development of reasoning concerning forgiveness (e.g., see Mullet & Girard, 2000), basic research into the social-psychological nature of forgiveness has begun to accrue (e.g., Kelln & Ellard, 1999; McCullough et al., 1998; McCullough, 1997). In contrast, relatively little work to date has explored the individual differences that might influence forgiveness (for review, see Emmons, in press). One possibility that appears to have been left out of discussions of forgiveness to date is that some people might simply be more vengeful than are other people and, thus, dispositionally less likely to forgive in the aftermath of interpersonal transgressions. The role of vengefulness as a dispositional determinant of forgiving is important to understand in light of recent conceptualizations (e.g., McCullough et al., 1998; McCullough, 1997) that view reductions in the motivation to seek revenge as a central component of forgiveness. In the present article, we set the theoretical groundwork for a construct that we call *vengefulness*; examine its links to forgiveness, rumination, and well-being; and explore its association with the personality traits in the Big Five trait taxonomy.

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*Vengeance, Vengefulness, and Forgiveness*

In recent years, several social scientists have written at length about the role vengeance plays in aggression (e.g., Baumeister, 1997; Black, 1998; Tedeschi & Felson, 1994). The desire for vengeance is frequently cited as a motive for many destructive and aggressive interpersonal behaviors, including homicide (Counts, 1987), rape (Scully & Marolla, 1985), arson (Bradford, 1982), shoplifting (Turner & Cashdan, 1988), and sexual infidelity (Mongeau, Hale, & Alles, 1994). Anger and revenge are cited as motivations for nearly 50% of adolescents' interpersonal violence (Pfefferbaum & Wood, 1994). Moreover, the desire for vengeance makes certain destructive interpersonal behaviors easier to justify (Mongeau et al., 1994).

*VENGEANCE AND WHAT IT IS INTENDED TO DO*

Vengeance is an attempt to redress an interpersonal offense by voluntarily committing an aggressive action against the perceived offender. Of course, vengeance can be viewed as a basic expression of the reciprocity norm (e.g., Gouldner, 1960); that is, the basic inclination to return harm for harm. In addition, however, vengeance might encompass at least three subsidiary goals.

*Vengeance as balancing the scales.* One possible goal underlying vengeance is the desire to "get even," "balance the scales," or "give tit for tat." The very sort of lay language used for vengeance reveals the perceived utility of vengeance for restoring moral balance. Thus, vengeance might be understood, at least from the vengeful person's point of view, as truly moral.

*Vengeance as moral instruction.* Vengeance also can involve the desire to "teach the offender a lesson" (Baumeister, 1997; Heider, 1958). Vengeance, in this sense, is symbolic behavior designed to convince the offender that a particular type of behavior will not be tolerated or go unpunished. The goal of contributing to the moral education of the offender is probably closely related to the goal of balancing the scales but is not identical to it: The moral-educative function of vengeance is addressed specifically to the offender, whereas its moral balancing function is not addressed to anything in particular (except, perhaps, some invisible moral order).

*Vengeance as saving face.* Vengeance also might be motivated by the goal of saving face. Victims typically attribute to their offenders a belief that the victim was not worthy of better treatment (Heider, 1958). Using Heider's (1958) language, revenge is an attempt to change the belief-attitude structure of the offender (p. 267) so that the offended person comes to be perceived as someone who should be respected and not trifled with in the same way again. By responding to the initial offense with even more aggression, the offender attempts to communicate

an even stronger message to the offender (and bystanders who might have witnessed the offense; see Brown, 1968) about his or her own value or self-worth.

*THE COGNITIVE AND PERSONALITY CORRELATES OF VENGEFULNESS*

Vengefulness, as we use the term, is a disposition that orients people toward revenge after they have suffered an interpersonal offense. Vengefulness refers both to (a) beliefs and attitudes about the morality or desirability of vengeful actions for attaining certain goals (e.g., restoring the moral balance, teaching an offender a lesson, saving face) and (b) self-reported use of vengeance as an interpersonal problem-solving strategy.

*Vengefulness and the Big Five.* Invoking the Big Five taxonomy of personality (e.g., John, 1990), we expect vengefulness to be related to two of the Big Five personality factors. The first of these is Neuroticism. People high in Neuroticism experience frequent negative affect, instability of affect, and greater sensitivity to negative events. Neuroticism, along with its cousin negative affectivity, also predisposes people to being easily offended and angered (Berkowitz, 1990; Caprara, Barbaranelli, & Comrey, 1992; Caprara, Manzi, & Perugini, 1992; Martin & Watson, 1997) and, thus, all else being equal, perhaps to being higher in vengefulness also.

We also expect vengeful people to be low in Agreeableness. Agreeableness is considered to be a Big Five factor with great relevance for how people conduct their interpersonal relationships (e.g., Graziano, Jensen-Campbell, & Hair, 1996). Agreeableness reflects a prosocial orientation toward others that includes such qualities as altruism, kindness, and trust. People low in Agreeableness have greater amounts of conflict with peers and difficulties in relational closeness and commitment (Asendorpf & Wilpers, 1998; Graziano et al., 1996). They also have empathy deficits (see, e.g., Ashton, Paunonen, Helmes, & Jackson, 1998). Furthermore, it is notable that terms such as *vengeful* and *forgiving* are prototypical markers of Agreeableness (e.g., John, 1990; McCrae & Costa, 1987).

*Vengefulness and rumination about interpersonal offenses.* Although some acts of vengeance might be spontaneous and impulsive, we posit that motivations to seek revenge frequently result from ruminative thinking about the offense. Thus, we expect that people with high levels of vengefulness engage in more ruminative thinking about offenses they have incurred. To the extent that this is the case, rumination about the offense could be seen as a by-product of vengeful people's attempts to keep the goals of vengeance clearly in focus: Vengeful people ruminate on the injustices and harm they have suffered to keep themselves focused on the goals of balancing the

scales, teaching the offender a lesson, or saving face. This prediction is supported by the fact that measures of attitudes regarding revenge are positively correlated with standard measures of ruminative thinking (Emmons, 1992). It appears that ruminative tendencies interfere with people's abilities to forgive an interpersonal transgression (McCullough et al., 1998; Metts & Cupach, 1998). Conversely, rumination is positively associated with the extent to which people aggress against individuals who have threatened their self-esteem (Caprara, 1986; Collins & Bell, 1997).

*Vengefulness and subjective well-being.* The speculation that rumination among vengeful people serves a goal-directive function does not necessarily imply that rumination is a pleasant experience. Indeed, an irony of vengeance could be that rumination, which is used in the service of the goal of seeking vengeance, could actually perpetuate the emotional distress that vengeance is intended to dissipate (see Wegner, 1998). Because rumination about an offense might be such an ironic process, we expect people high in vengefulness to be working actively to suppress their negative thoughts about the offense. The rumination and suppression that are expected to accompany vengefulness in the aftermath of an interpersonal offense are thus expected to take a toll on subjective well-being.

#### HYPOTHESES

Given this conceptualization, we hypothesized that vengefulness was (a) positively related to rumination about the offense, efforts to suppress those ruminations, and negative affectivity/Neuroticism and (b) inversely related to forgiveness, subjective well-being, and Agreeableness. Furthermore, we predicted that vengeful people would show less reduction in rumination and suppression, less reduction in avoidance and revenge motivations, and less increase in subjective well-being over time. We also predicted that changes over time in rumination, suppression, forgiving, and satisfaction with life would be intercorrelated.

We addressed these hypotheses in two studies. In Study 1, we examined the association of vengefulness with the longitudinal trajectory of people's responses to a specific interpersonal transgression over an 8-week follow-up period. In Study 2, we investigated the association of vengefulness with the constructs in the Big Five model of personality.

#### STUDY 1

##### Method

##### PARTICIPANTS

Participants were 91 volunteers from introductory psychology courses at a medium-size public university

(36 men and 55 women). Participants volunteered for participation in a study of "student health, lifestyles, and relationships." All participants reported having been offended by another person less than 2 months prior to the study.

##### INSTRUMENTS

*Vengefulness.* We assessed respondents' vengefulness with seven items from Mauger et al.'s (1991) Forgiveness of Others Scale, which assess vengefulness. These items were placed on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*) to increase scale variance. The seven-item form is highly correlated with Caprara's (1986) Dissipation-Rumination Scale ( $r = .79$ ) and Emmons's (1992) Beliefs About Revenge Questionnaire ( $r = .68$ ) (McCullough, Emmons, Kilpatrick, & Mooney, 1999).

*Impact of Event Scale (IES).* The IES (Horowitz, Wilner, & Alvarez, 1979) is a 15-item self-report measure that indicates the extent to which the respondent (a) experiences intrusive thoughts, affects, and imagery regarding a specific life event and its context (the Intrusiveness subscale, which we call rumination) and (b) attempts to avoid intrusive thoughts, affects, and imagery regarding this specific life event (the Avoidance subscale, which we call suppression). Items were presented on a 5-point Likert-type scale (1 = *not at all*, 5 = *often*) to indicate how frequently the respondent experienced ruminative thoughts, affects, or imagery regarding a specific interpersonal offense (e.g., "I thought about it when I didn't mean to") or attempted to suppress the thoughts, affects, and imagery related to the specific interpersonal offense. Participants completed the IES in a section of the questionnaire titled "A Painful Hurt Since Christmas," which instructed them to focus on a single offense that they had incurred since Christmas vacation. They were instructed to think back on the previous 7 days and to indicate how frequently they had experienced each of 15 ruminative or suppressive symptoms during that time period. When used to rate interpersonal offenses in this manner, internal consistency reliabilities for these scales are approximately .85 (McCullough et al., 1998).

*Transgression-Related Interpersonal Motivations (TRIM) Inventory.* Forgiving was measured with the TRIM Inventory (McCullough et al., 1998). The TRIM consists of 12 items that are used to indicate the extent to which one experiences two negative motivational states that McCullough et al. (1997) hypothesized to underlie interpersonal forgiving. The Revenge subscale consists of five items that assess respondents' desire to seek revenge against someone who committed a specific transgression against them (e.g., "I'll make him or her pay."). The Avoidance subscale consists of seven items that assess respondents' desire to maintain relational distance from



their transgressor (e.g., "I live as if he or she doesn't exist, isn't around"). Items are rated on a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Internal consistency reliabilities ( $\alpha$ ) for both subscales range from .85 to .93 and test-retest reliabilities have been in the range of .44 to .65 (McCullough et al., 1998). Construct validity is supported through confirmatory factor analyses indicating that the measurement model is a good fit (Comparative Fit Index > .90) to the relationships among the 12 items (McCullough et al., 1998). These subscales also manifest convergent and discriminant validity through (a) moderate correlations with measures of offense-specific rumination, empathy, and relational closeness and (b) low correlations with measures of social desirability (McCullough et al., 1998).

As they did with the IES, participants completed the TRIM after being instructed to think of the worst hurt that had occurred to them since Christmas vacation. Then, they completed the TRIM to describe their thoughts and feelings regarding the specific person who had hurt them.

*Satisfaction With Life Scale (SWLS).* The SWLS (Diener, Emmons, Larsen, & Griffin, 1985) is a 5-item self-report measure of the cognitive component of subjective well-being (e.g., "In most ways my life is close to ideal."). The SWLS is negatively correlated with measures of psychological distress and Neuroticism and is positively correlated with Extraversion. Internal consistency is high and test-retest stability estimates are frequently in the upper .80s and exceed .50 even after 4 years (Pavot & Diener, 1993).

*Negative affectivity.* We measured respondents' dispositional tendency to experience negative affect with the trait negative affect (NA) form of Watson, Clark, and Tellegen's (1988) Positive and Negative Affect Schedule (PANAS). The PANAS consists of 10 positive affect (PA) and 10 NA adjectives that participants completed to indicate the extent to which they "generally [feel] each feeling, that is how [they feel] on average." Respondents completed each of the 10 NA items using a 5-point Likert-type scale (1 = *very slightly*, 5 = *extremely*). Internal consistency ( $\alpha$ ) and test-retest reliability are high for both the PA and NA scales. NA is highly correlated with measures of Big Five Neuroticism (i.e.,  $r = .58$ ) (Watson, Wiese, Vaidya, & Tellegen, 1999) and was used in the present study as a covariate to adjust the associations of vengefulness and other variables for the well-established associations of NA with measures of anger, hostility, and aggression (e.g., Berkowitz, 1990; Martin & Watson, 1997).

#### PROCEDURES

In the winter term, we recruited participants from several undergraduate psychology courses by announcing

that we were interested in examining the experiences of people who had been seriously offended by someone in the previous 2 months (i.e., since Christmas vacation).

Approximately 39% of respondents indicated that they had been seriously hurt by a significant other, 26% indicated a friend, 16% indicated a family member, and 19% indicated someone else. The following are some examples of the types of offenses that respondents reported having suffered: "My boyfriend just told me that he wants to start dating other people"; "I had a fight with my parents that really hurt my feelings"; "I found out about a week ago that my girlfriend was sleeping with my roommate"; "I heard that a good friend has been spreading rumors about me that are not true"; and "Someone on campus called me a racial slur that hurt me a lot."

Participants completed a single item ("How deeply hurt were you when the incident occurred?") that we adapted from Subkoviak et al. (1995). Participants responded to this single item on a 5-point Likert-type scale (1 = *no hurt*, 5 = *a great deal of hurt*). The mean score on this item was 3.63 ( $SD = 1.32$ ). Approximately 9% responded with a score of 1 (*no hurt*), 12% with a 2 (*a little hurt*), 22% with a 3 (*some hurt*), 22% with a 4 (*much hurt*), and 36% with a 5 (*a great deal of hurt*).

Following recruitment, participants completed items from Mauger et al. (1991) constituting the vengefulness measure, the IES, the TRIM, the SWLS, and the PANAS. Approximately 8 weeks later, we recontacted students and distributed a second battery of instruments. Students completed this second battery of instruments outside of class individually and then returned them during the next class period. Sixty-one (67%) of the original 91 participants completed follow-up questionnaires.

#### Results

##### GENDER DIFFERENCES

Because there were no differences among men and women on any of the major variables (all  $t$  values < |1.3|,  $ps > .20$ ), data were analyzed simultaneously for men and women. Means, standard deviations, internal consistency reliability estimates, and test-retest correlations for the major study variables appear in Table 1. Correlations among variables appear in Table 2.

##### CROSS-SECTIONAL ANALYSES

At baseline ( $Ns = 86$  to  $90$ ), vengefulness was positively correlated with rumination, TRIM-revenge, TRIM-avoidance, and negative affectivity and was negatively correlated with satisfaction with life (see Table 2). Thus, people with higher vengefulness scores ruminated more, were less forgiving, and had less satisfaction with life and higher negative affectivity.

**TABLE 1: Means, Standard Deviations, and Test-Retest Correlations of Major Study Variables**

Variable	Baseline			Follow-Up			Test-Retest $r$
	M	SD	$\alpha$	M	SD	$\alpha$	
Vengefulness	21.41	9.25	.85	21.27	9.06	.87	$r(58) = .77$
Rumination	13.60	10.92	.91	10.91	9.39	.92	$r(60) = .54$
Suppression	16.38	10.81	.86	25.39	8.99	.82	$r(60) = .52$
TRIM-Avoidance	18.24	8.50	.91	17.19	7.75	.93	$r(59) = .50$
TRIM-Revenge	8.95	5.37	.92	8.31	3.71	.89	$r(59) = .47$
Satisfaction with life	25.33	6.00	.85	26.05	5.96	.91	$r(58) = .79$
Positive affectivity	37.24	6.80	.87	— <sup>a</sup>	—	—	—
Negative affectivity	19.91	7.42	.87	— <sup>a</sup>	—	—	—

NOTE: TRIM = Transgression-Related Interpersonal Motivations Inventory.

a. Variables only measured at baseline assessment.

#### LONGITUDINAL ANALYSES

We examined whether vengefulness was associated with the extent to which rumination, suppression, forgiving, and satisfaction with life changed over the 8-week study period. These longitudinal analyses included data from the 61 participants from the baseline sample who provided data both at baseline and at follow-up. Prior to conducting these analyses, we confirmed with a series of  $t$  tests that the respondents who provided data at Time 2 did not differ from the participants who did not provide data at Time 2 on any of the variables measured at Time 1, all  $t$  values  $< |1.8|$  (all  $p$ s  $> .05$ ). The apparent equivalence of these two groups of respondents suggests that data were missing completely at random (Allison, in press) and, therefore, that the results of these longitudinal analyses were unbiased by attrition.

We conducted a series of five hierarchical regression analyses. To ensure that any observed associations of vengefulness and the criterion variables could not be attributed to the associations of negative affectivity with measures of anger, hostility, and aggression (Berkowitz, 1990; Martin & Watson, 1997), we entered negative affectivity at the first step in each regression analysis. Then we added vengefulness at the second step in each regression analysis. The five criterion variables were residualized change on five variables (rumination, suppression, TRIM-avoidance, TRIM-revenge, and satisfaction with life). These residuals were created by regressing follow-up values for each of the variables on its baseline values. Change scores created with such regression methods are more reliable than pre-post difference scores (Cohen & Cohen, 1983).

As can be seen in Table 3, negative affectivity was not significantly associated with any of the five criterion variables, all  $p$ s  $> .05$ . However, at the second step (i.e., after having controlled for negative affectivity), vengefulness was related to residualized change in TRIM-revenge scores. Vengefulness accounted for 23% of the change in

**TABLE 2: Correlations of Major Study Variables (baseline assessment)**

	1	2	3	4	5	6	7
1. Vengefulness	—						
2. Rumination	.31	—					
3. Suppression	.20	.62	—				
4. Avoidance	.38	.39	.37	—			
5. Revenge	.52	.40	.19	.47	—		
6. Satisfaction with life	-.26	-.38	-.16	-.20	-.11	—	
7. Negative affectivity	.33	.47	.34	.28	.17	-.53	—

NOTE:  $N$ s range from 86 to 90. Correlations  $> |.23|$  are significant,  $p < .05$ .

TRIM-revenge scores after having controlled for negative affect. People with high levels of vengefulness tended to maintain higher revenge motivations toward their offenders ( $\beta = .50$ ,  $p < .05$ ). The associations of vengefulness and the other four criteria were not significant (all  $p$ s  $> .05$ ).

#### SUBSIDIARY LONGITUDINAL ANALYSES

To examine the possibility that change in rumination, suppression, forgiveness, and satisfaction with life were interrelated, we examined the correlations among their residualized change scores (see Table 4).

*Correlations of residualized change in rumination, suppression, and forgiving.* People who experienced relative reductions in rumination over time also experienced relative reductions in TRIM-avoidance scores,  $r(60) = .43$ ,  $p < .05$ , and relative reductions in TRIM-revenge scores,  $r(60) = .26$ ,  $p < .05$ . People who experienced relative reductions in suppression over time also experienced relative reductions in TRIM-avoidance scores,  $r(60) = .35$ ,  $p < .05$ , and relative reductions in TRIM-revenge scores,  $r(60) = .37$ ,  $p < .05$ . Thus, people who ruminated and

**TABLE 3: Predicting Residualized Change in Five Criterion Variables With Vengefulness After Controlling for Negative Affectivity**

	B	SE	$\beta$	$R^2$	$\Delta R^2$
Criterion: Change in rumination					
Step 1: Negative affectivity	.02	.02	.19	.03	.03
Step 2: Vengefulness	-.01	.02	-.10	.04	.01
Criterion: Change in suppression					
Step 1: Negative affectivity	.02	.02	.13	.02	.02
Step 2: Vengefulness	.01	.02	.13	.03	.02
Criterion: Change in TRIM-Avoidance					
Step 1: Negative affectivity	.03	.02	.25	.06	.06
Step 2: Vengefulness	.02	.01	.19	.09	.03
Criterion: Change in TRIM-Revenge					
Step 1: Negative affectivity	.01	.02	.06	.00	.00
Step 2: Vengefulness	.05	.01	.50*	.23*	.23*
Criterion: Change in satisfaction with life					
Step 1: Negative affectivity	-.03	.02	-.22	.05	.05
Step 2: Vengefulness	-.01	.01	-.12	.06	.01

NOTE: TRIM = Transgression-Related Interpersonal Motivations Inventory.

\* $p < .05$ .

suppressed less over time also became more forgiving over time.

We evaluated the possibility that the amount of hurt caused by the offense was responsible for the correlations between these residualized change scores by partialing variance from these correlations that could be attributed to scores on the single-item rating of the hurtfulness of the offense. Even after controlling for scores on this single-item measure of hurtfulness, correlations of residualized change in rumination and residualized change in avoidance,  $r(53) = .41$ ,  $p < .05$ , and revenge,  $r(53) = .21$ ,  $p > .05$ , persisted with only small deflations in magnitude (i.e., 5 correlation points or less). As well, the correlations of residualized change in suppression and residualized change in avoidance,  $r(53) = .37$ ,  $p < .05$ , and revenge,  $r(53) = .35$ ,  $p = .05$ , persisted with practically no deflation in magnitude (i.e., 2 correlation points or less). Thus, residualized changes in rumination, suppression, and forgiving could not be explained away as a function of subjective hurtfulness of the offense.

*Correlations with residualized change in satisfaction with life.* Change in forgiving was virtually uncorrelated with changes in satisfaction with life scores over time ( $r_s = -.04$  and  $-.13$ ,  $p_s > .05$ ). Changes in suppression and rumination also were not significantly correlated with changes in satisfaction with life,  $r_s(59) = -.17$  and  $-.19$ , respectively ( $p_s > .05$ ). Thus, people who ruminated less, suppressed less, and forgave more throughout the 8-week follow-up period were no more or less likely to experience changes in satisfaction with life.

**TABLE 4: Correlations of Residualized Change in Rumination, Suppression, Forgiveness Scales, and Satisfaction With Life**

Scale	Rumination	Suppression	Avoidance	Revenge
Rumination	—			
Suppression	.57*	—		
Avoidance	.43*	.35*	—	
Revenge	.26*	.37*	.34*	—
Satisfaction with life	-.17	-.19	-.04	-.13

NOTE:  $N$ s range from 58 to 61.

\* $p < .05$ .

### Study 1 Discussion

In Study 1, we examined the cross-sectional and longitudinal associations of vengefulness with rumination, suppression, forgiving, and subjective well-being, hypothesizing that vengefulness maintained ruminative processes and interfered with forgiveness and subjective well-being following an interpersonal offense. Cross-sectional analyses generally supported these hypotheses. As predicted, vengeful people reported more intense rumination about the offense. Vengeful people also reported having higher motivations to avoid and seek revenge against their offenders. As well, people high in vengefulness tended to be less satisfied with their lives and higher in negative affectivity. These cross-sectional findings are not terribly surprising and corroborate findings from other studies demonstrating that people with high degrees of vengefulness are more prone to negative affect and ruminative thinking (Emmons, 1992).

Vengefulness also predicted the longitudinal trajectory of people's motivations to seek revenge against their offenders throughout the 8-week follow-up period. In other words, vengeful people were not only more vengeful toward their offenders in a cross-sectional sense but their motivations to seek revenge also persisted throughout the 8-week follow-up period to a greater extent than did those of less vengeful people. This longitudinal link could not be explained away as a function of negative affectivity (see Berkowitz, 1990; Martin & Watson, 1997), which gives us greater confidence that the vengeful disposition per se might actually exert a causal influence on people's motivation to seek revenge against people who have injured them.

However, vengefulness was not particularly useful for predicting the persistence of respondents' motivations to avoid their offenders following the interpersonal offense. Because we operationalize forgiving as reductions in (a) revenge motivations and (b) avoidance motivations following an interpersonal offense, the longitudinal findings from Study 1 suggest that vengefulness

might be relevant to only one aspect of forgiving rather than to both. This discrepancy lends credence to recent theorizing that the motivations to avoid and to seek revenge are governed by independent psychological systems (McCullough, 2000).

Vengefulness also was not related to longitudinal change in rumination about the offense or attempts to suppress that rumination. Thus, despite our hypotheses, we cannot explain the vengefulness-forgiving relationship in terms of rumination and suppression. One possible alternative explanation that deserves greater attention is the possibility that the link of vengefulness to interpersonal forgiving has less to do with lack of control over ruminative thoughts than it does with principled moral action. Vengeful people's motivations to see harm come to their offenders might not be due to an inability to suppress ruminative thoughts effectively but rather to an abiding belief that seeking vengeance and harboring ill will is a morally correct response when one has been offended by another person. Future research should examine the distinction between the "principled moral action" and "ineffective suppression of ruminative thoughts" interpretations of the vengefulness-forgiveness link.

*CORRELATIONS OF CHANGE IN RUMINATION,  
SUPPRESSION, FORGIVING, AND  
SATISFACTION WITH LIFE*

People who became more forgiving over time also became less ruminative and suppressive. These variables might covary because rumination and/or suppression interfere with forgiving, which would support our theoretical understanding of their relationships. However, it is possible that they are related because forgiving impedes rumination and suppression. It is also possible that forgiving, rumination, and suppression have reciprocal causal effects. Finally, their relationships might be caused by unmeasured variables, rendering their associations spurious. Our subsidiary analyses showed, however, that the association of change in rumination, suppression, and forgiving could not be explained away as resulting from the common impact of offense severity. The next step for evaluating whether rumination and suppression have causal effects on forgiving (or vice versa) would probably be to conduct experimental research.

The present results cast doubt on the hypothesis that forgiving one's offenders has a beneficial causal effect on subjective well-being. Several other researchers (e.g., Subkoviak et al., 1995) have noted cross-sectional associations between measures of forgiveness and measures of well-being (e.g., anxiety, depression, and self-esteem). However, we found no evidence that people who became

more forgiving toward their offenders throughout the 8-week time period became substantially more satisfied with their lives throughout the 8-week time period. Given the current enthusiasm about the potential mental health benefits of forgiving, this is likely to be the most contentious finding of the current study because it calls into question the importance of forgiving one's transgressors for promoting or restoring subjective well-being.

Of course, the present results do not rule out the possibility that a causal link between forgiving and mental health exists. They do, however, suggest that such a relationship might be more difficult to detect than is commonly assumed. Satisfaction with life was very stable across the two assessments. Its test-retest correlation was  $r(58) = .79, p < .001$ , indicating that people's satisfaction with life is relatively stable and perhaps not highly likely to be influenced by forgiving a single transgressor. However, aggregating many measures of forgiving across many interpersonal offenses might reveal evidence of a significant causal effect (see McCullough, Hoyt, & Rachal, 2000). Also, it is possible that the salutary effects of forgiving on mental health can only be detected in the context of extremely severe, potentially life-changing interpersonal offenses (e.g., Coyle & Enright, 1997; Freedman & Enright, 1996). Such questions can only be addressed through more and better longitudinal or experimental work.

A major limitation of the present study was its small sample size, which limited statistical power and precision in parameter estimates (Cohen, 1988). Indeed, we found several associations with small to medium effect sizes (e.g., correlations on the order of  $r = .20$ ) that we could not conclude as having been statistically different from zero with a Type I error rate of  $p < .05$  because of low statistical power. A second limitation was its exclusive reliance on undergraduate students, whose experiences with vengeance, interpersonal offenses, and forgiving might differ from those of the general population. Further studies should attempt to replicate these findings with larger and more diverse samples.

As mentioned above, the association of vengefulness and the trajectory of people's motivations to seek revenge against their offenders could not be explained away as a function of negative affectivity (cf. Berkowitz, 1990; Martin & Watson, 1997), suggesting that vengefulness might exert a causal influence on the trajectory of forgiveness over time. However, many questions about the vengefulness construct remained, especially its association to other personality traits. We were particularly interested in the associations of vengefulness with the Big Five factors (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism). To investigate these issues, we conducted a second study. We



hypothesized that vengefulness would be correlated positively with Neuroticism and negatively with Agreeableness (Ashton et al., 1998).

## STUDY 2

### Method

#### PARTICIPANTS

Participants were 192 undergraduate students at Iowa State University. Participants received a small amount of course credit for their participation.

#### MEASURES

*Vengefulness.* Participants completed the 7-item version of Mauger et al.'s (1991) scale that we used in Study 1.

*The Big Five.* The Big Five personality factors were measured with John, Donahue, and Kentle's (1991) Big Five Inventory (BFI). The BFI uses 44 prototypical markers of the Big Five dimensions. The items on the five scales of the BFI are rated on a 5-point scale (1 = *disagree strongly*, 5 = *agree strongly*) and then are summed and averaged to derive the five scale scores. The BFI subscales manifest considerable convergent and discriminant validity. Internal consistencies typically exceed .75 for all five scales, and 3-month test-retest reliabilities typically exceed .80 (Benet-Martínez & John, 1998).

#### PROCEDURE

Students completed a variety of self-report instruments during several computer-administered assessment sessions spaced at approximately equal intervals throughout the semester. Participants' responses to each item were automatically saved into a computer file. During one of these computer-assisted assessment sessions, participants completed both the vengefulness measure and the BFI.

### Results

Means, standard deviations, internal consistency reliabilities, and correlations of the major study variables appear in Table 5.

#### CORRELATIONAL AND MULTIPLE REGRESSION ANALYSES

As can be seen in Table 5, vengefulness was correlated significantly with three of the Big Five scales. Vengefulness was correlated negatively with Conscientiousness,  $r(192) = -.24, p < .05$ , negatively with Agreeableness,  $r(192) = -.49, p < .05$ , and positively with Neuroticism,  $r(192) = .36, p < .05$ . The correlations of vengefulness with Openness and Extraversion were not significant,  $r(192) = -.07$  and  $.00$ , respectively,  $ps > .05$ .

Second, we conducted a simultaneous multiple regression analysis in which the Big Five were used to

**TABLE 5: Means, Standard Deviations, Internal Consistencies, and Correlations of Major Variables (Study 2)**

Variable	M	SD	$\alpha$	Correlations				
				1	2	3	4	5
1. Vengefulness	3.31	1.26	.86	—				
2. Openness	3.79	0.59	.80	-.07	—			
3. Conscientiousness	3.63	0.61	.79	-.24	.04	—		
4. Extraversion	3.43	0.81	.86	.00	.23	.18	—	
5. Agreeableness	3.79	0.65	.81	-.49	.14	.32	.10	—
6. Neuroticism	3.15	0.83	.85	.36	-.16	-.17	-.23	-.36

NOTE: Correlations  $> |.14|$  are significant,  $p < .05$ .

**TABLE 6: Results of Simultaneous Multiple Regression of the Big Five on Vengefulness**

Predictor Variable	B	SE	$\beta$	$R^2$
Openness	.00	.14	.00	
Conscientiousness	-.19	.14	-.09	
Extraversion	.17	.10	.11	
Agreeableness	-.76	.13	-.39*	
Neuroticism	.35	.10	.23*	
				.30*

\* $p < .05$ .

predict vengefulness (see Table 6). The set of Big Five variables explained 30% of the variance in vengefulness,  $R^2(5, 186) = .30, p < .05$ . Agreeableness predicted unique variance in vengefulness ( $\beta = -.39, p < .05$ ), as did Neuroticism ( $\beta = .23, p < .05$ ).

### Discussion

In Study 2, we hypothesized that vengefulness would be related to the Agreeableness and Neuroticism dimensions of the Big Five. Both of these hypotheses were confirmed. The correlation of Neuroticism and vengefulness was  $r = .36$ , which is similar in magnitude to the correlation of  $r = .33$  that we obtained for the vengefulness-negative affectivity relationship in Study 1. Given the fact that negative affectivity and Neuroticism are constructs with considerable conceptual and empirical similarity (Clark & Watson, 1999; Watson et al., 1999), the present studies suggest that the association of vengefulness with Neuroticism and/or the tendency to experience negative affect is a reliable one. Moreover, this finding merges well with other research demonstrating the associations among negative affectivity, anger, and aggression (e.g., Berkowitz, 1990; Martin & Watson, 1997), of which vengefulness is likely to be a correlate.

Vengefulness was negatively associated with Agreeableness. People who tend to endorse vengeful attitudes and report the use of vengeance as a problem-solving

strategy were considerably less agreeable than others ( $r = -.49$ ). The relationship between vengefulness and Agreeableness fits well with recent conceptualizations (i.e., Graziano et al., 1996) of Agreeableness as a trait that helps people manage their interpersonal frustrations and anger effectively. Together, Agreeableness and Neuroticism explained an appreciable amount of variance in vengefulness (i.e., 30%), but by no means did they explain the lion's share. Indeed, an important message from Study 2 is that vengefulness, as we measured it, is not reducible to a linear composite of the Big Five personality traits. This suggests, on one hand, that other personality traits and taxonomies might be invoked to explain additional variance in vengefulness. On the other hand, these findings provide evidence that vengefulness might merit attention on its own terms and not simply as a derivative of higher order personality traits.

#### GENERAL DISCUSSION

To date, considerations of personality and disposition have not been well integrated into theorizing about forgiveness (Emmons, 2000). The present set of studies helps to ameliorate this deficit in forgiveness theory by exploring the dynamics of vengefulness and its relationship to interpersonal forgiving and related constructs.

Vengefulness is a trait that comprises (a) beliefs and attitudes about the morality or desirability of vengeful actions for attaining certain goals (e.g., restoring the moral balance, teaching an offender a lesson, saving face) and (b) self-reported use of vengeance as an interpersonal problem-solving strategy. We found evidence that vengefulness played an important role in forgiving. Vengeful people are not only less forgiving and more ruminative cross-sectionally but also maintain their motivations to seek revenge against their offender over time to a greater extent than do people who are less vengeful. This longitudinal link could not be explained away as a function of negative affectivity, giving us greater confidence that the vengeful disposition per se might be helpful for understanding the trajectory of interpersonal forgiving. In addition, because changes in forgiveness over time were inversely related to changes in rumination and suppression over time, rumination and suppression might be important social-cognitive factors to integrate into forgiveness theory and explore further in future studies.

Because the slow decay of vengeful people's revenge motivations toward their interpersonal offenders could not be explained as a function of changes in rumination or suppression, we are left without an empirically based explanation for the link between vengefulness and the persistence of revenge motivations. It is possible that vengeful people do not maintain their desire for revenge by ruminating but rather out of principled moral reason-

ing that convinces them that seeking revenge is a morally justifiable response to having been injured by another person. Determining whether vengeful people persist in their desire for revenge over time due to rumination, a conviction that maintaining a motivation to seek revenge is a moral course of action, or some other mechanisms should be addressed in future research.

Vengefulness also is positively related to negative affectivity/Neuroticism and negatively related to Agreeableness and satisfaction with life. Thus, vengeful people tend to experience greater levels of negative affect, lower levels of life satisfaction, and perhaps, difficulty maintaining harmonious interpersonal relationships. Although personality taxonomies such as the Big Five taxonomy help to characterize the nature and structure of vengefulness, vengefulness does not appear to be reducible to a linear combination of the Big Five. Therefore, it seems worthwhile to continue exploring, on its own terms, the influence of vengefulness on interpersonal forgiving. At the same time, however, attempts to articulate the links of vengefulness to other personality dimensions are likely to be fruitful.

As research on forgiving builds, it will be important to develop theoretical models that address the broad range of social, social-cognitive, and dispositional factors that influence the capacity to forgive (see McCullough, Pargament, & Thoresen, 2000). The present research yielded several findings that should be added into conceptualizations of forgiving. First, vengefulness, which is related to high negative affectivity, high Neuroticism, low Agreeableness, and low satisfaction with life, should be considered a proximal influence on the longitudinal course of forgiving across time. Second, ruminating about an offense and attempts to suppress that rumination appear to be related over time to changes in forgiving. Third, if forgiving has a longitudinal effect in promoting subjective well-being, it is perhaps more elusive than some researchers might have initially supposed. Integrating these considerations into future work on forgiveness will increase the complexity of existing theoretical accounts and might help ultimately to improve our understanding of this interesting and important interpersonal process.

#### REFERENCES

- Allison, P. D. (in press). *Missing data*. Thousand Oaks, CA: Sage.
- Asendorpf, J. B., & Wilpers, S. (1998). Personality effects on social relationships. *Journal of Personality and Social Psychology*, 74, 1531-1544.
- Ashton, M. C., Paunonen, S. V., Helmes, E., & Jackson, D. N. (1998). Kin altruism, reciprocal altruism, and the Big Five personality factors. *Evolution and Human Behavior*, 19, 243-255.
- Baumeister, R. F. (1997). *Evil*. New York: Freeman.
- Benet-Martínez, V., & John, O. P. (1998). Los Cinco Grandes across cultures and ethnic groups: Multitrait multimethod analyses of

- the Big Five in Spanish and English. *Journal of Personality and Social Psychology*, 75, 729-750.
- Berkowitz, L. (1990). On the formation and regulation of anger and aggression: A cognitive-neoassociationistic analysis. *American Psychologist*, 45, 494-503.
- Black, D. (1998). *The social structure of right and wrong*. San Diego: Academic Press.
- Bradford, J. M. (1982). Arson: A clinical study. *Canadian Journal of Psychiatry*, 27, 188-193.
- Brown, B. R. (1968). The effects of need to maintain face on interpersonal bargaining. *Journal of Experimental Social Psychology*, 4, 107-122.
- Caprara, G. V. (1986). Indicators of aggression: The dissipation-rumination scale. *Personality and Individual Differences*, 7, 763-769.
- Caprara, G. V., Barbaranelli, C., & Comrey, A. L. (1992). A personological approach to the study of aggression. *Personality and Individual Differences*, 13, 77-84.
- Caprara, G. V., Manzi, J., & Perugini, M. (1992). Investigating guilt in relation to emotionality and aggression. *Personality and Individual Differences*, 13, 519-532.
- Clark, L. A., & Watson, D. (1999). Temperament: A new paradigm for trait psychology. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 399-423). New York: Guilford.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Collins, K., & Bell, R. (1997). Personality and aggression: The Dissipation-rumination scale. *Personality and Individual Differences*, 22, 751-755.
- Counts, D. A. (1987). Female suicide and wife abuse: A cross-cultural perspective. *Suicide and Life-Threatening Behavior*, 17, 194-294.
- Coyle, C. T., & Enright, R. D. (1997). Forgiveness intervention with post-abortion men. *Journal of Consulting and Clinical Psychology*, 65, 1042-1046.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life scale. *Journal of Personality Assessment*, 49, 71-75.
- Emmons, R. A. (1992, August). *Revenge: Individual differences and correlates*. Paper presented at the 100th annual convention of the American Psychological Association, Washington, DC.
- Emmons, R. A. (2000). Personality and forgiveness. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 156-175). New York: Guilford.
- Freedman, S., & Enright, R. D. (1996). Forgiveness as an intervention goal with incest survivors. *Journal of Consulting and Clinical Psychology*, 64, 983-992.
- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161-178.
- Graziano, W. G., Jensen-Campbell, L. A., & Hair, E. C. (1996). Perceiving interpersonal conflict and reacting to it: The case for agreeableness. *Journal of Personality and Social Psychology*, 70, 820-835.
- Hebl, J. H., & Enright, R. D. (1993). Forgiveness as a psychotherapeutic goal with elderly females. *Psychotherapy*, 30, 658-667.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: John Wiley.
- Horowitz, M. J., Wilner, N., & Alvarez, W. (1979). Impact of event scale: A measure of subjective stress. *Psychosomatic Medicine*, 41, 209-218.
- John, O. P. (1990). The "Big Five" factor taxonomy: Dimensions of personality in the natural language and in questionnaires. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 66-100). New York: Guilford.
- John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The "Big Five" Inventory: Versions 4a and 54*. Berkeley: University of California, Institute of Personality and Social Research.
- Kelln, B. R. C., & Ellard, J. H. (1999). An equity theory analysis of the impact of forgiveness and retribution on transgressor compliance. *Personality and Social Psychology Bulletin*, 25, 864-872.
- Martin, R., & Watson, D. (1997). Style of anger expression and its relation to daily experience. *Personality and Social Psychology Bulletin*, 23, 285-294.
- Mauger, P. A., Perry, J. E., Freeman, T., Grove, D. C., McBride, A. G., & McKinney, K. E. (1991). The measurement of forgiveness: Preliminary research. *Journal of Psychology and Christianity*, 11, 170-180.
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52, 81-90.
- McCullough, M. E. (2000). Forgiveness as human strength: Theory, measurement, and links to well-being. *Journal of Social and Clinical Psychology*, 19, 43-55.
- McCullough, M. E., Emmons, R. A., Kilpatrick, S. D., & Mooney, C. (1999). *Out to get us? The effects of rumination, distraction, and forgiving on perceived frequency of interpersonal offenses*. Manuscript submitted for publication.
- McCullough, M. E., Hoyt, W. T., & Rachal, K. C. (2000). What we know (and need to know) about assessing forgiveness constructs. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 65-88). New York: Guilford.
- McCullough, M. E., Pargament, K. I., & Thoresen, C. E. (Eds.). (2000). *Forgiveness: Theory, research, and practice*. New York: Guilford.
- McCullough, M. E., Rachal, K. C., Sandage, S. J., Worthington, E. L., Jr., Brown, S. W., & Hight, T. L. (1998). Interpersonal forgiving in close relationships II: Theoretical elaboration and measurement. *Journal of Personality and Social Psychology*, 75, 1586-1603.
- McCullough, M. E., & Worthington, E. L., Jr. (1995). Promoting forgiveness: A comparison of two brief psychoeducational interventions with a waiting-list control. *Counseling and Values*, 40, 55-68.
- McCullough, M. E., Worthington, E. L., & Rachal, K. C. (1997). Interpersonal forgiving in close relationships. *Journal of Personality and Social Psychology*, 73, 321-336.
- Metts, S., & Cupach, W. R. (1998, June). *Predictors of forgiveness following a relational transgression*. Paper presented at the 9th International Conference on Personal Relationships, Saratoga Springs, NY.
- Mongeau, P. A., Hale, J. L., & Alles, M. (1994). An experimental investigation of accounts and attributions following sexual infidelity. *Communication Monographs*, 61, 326-344.
- Mullet, E., & Girard, M. (2000). Cognitive and moral perspectives on forgiveness. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 111-155). New York: Guilford.
- Pavot, W., & Diener, E. (1993). Review of the Satisfaction With Life Scale. *Psychological Assessment*, 5, 164-172.
- Pfefferbaum, B., & Wood, P. B. (1994). Self-report study of impulsive and delinquent behavior in college students. *Journal of Adolescent Health*, 15, 295-302.
- Scully, D., & Marolla, J. (1985). "Riding the bull at Gilley's": Convicted rapists describe the rewards of rape. *Social Problems*, 32, 251-262.
- Subkoviak, M. J., Enright, R. D., Wu, C., Gassin, E. A., Freedman, S., Olson, L. M., & Sarinopoulos, I. (1995). Measuring interpersonal forgiveness in late adolescence and middle adulthood. *Journal of Adolescence*, 18, 641-655.
- Tedeschi, J. P., & Felson, R. B. (1994). *Violence, aggression, and coercive actions*. Washington, DC: American Psychological Association.
- Turner, C., & Cashdan, S. (1988). Perception of college student motives for shoplifting. *Psychological Reports*, 62, 855-862.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.
- Watson, D., Wiese, D., Vaidya, J., & Tellegen, A. (1999). The two general activation systems of affect: Structural findings, evolutionary considerations, and psychobiological evidence. *Journal of Personality and Social Psychology*, 76, 820-838.
- Wegner, D. M. (1998). When the antidote is the poison: Ironical mental control processes. *Psychological Science*, 8, 148-150.

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